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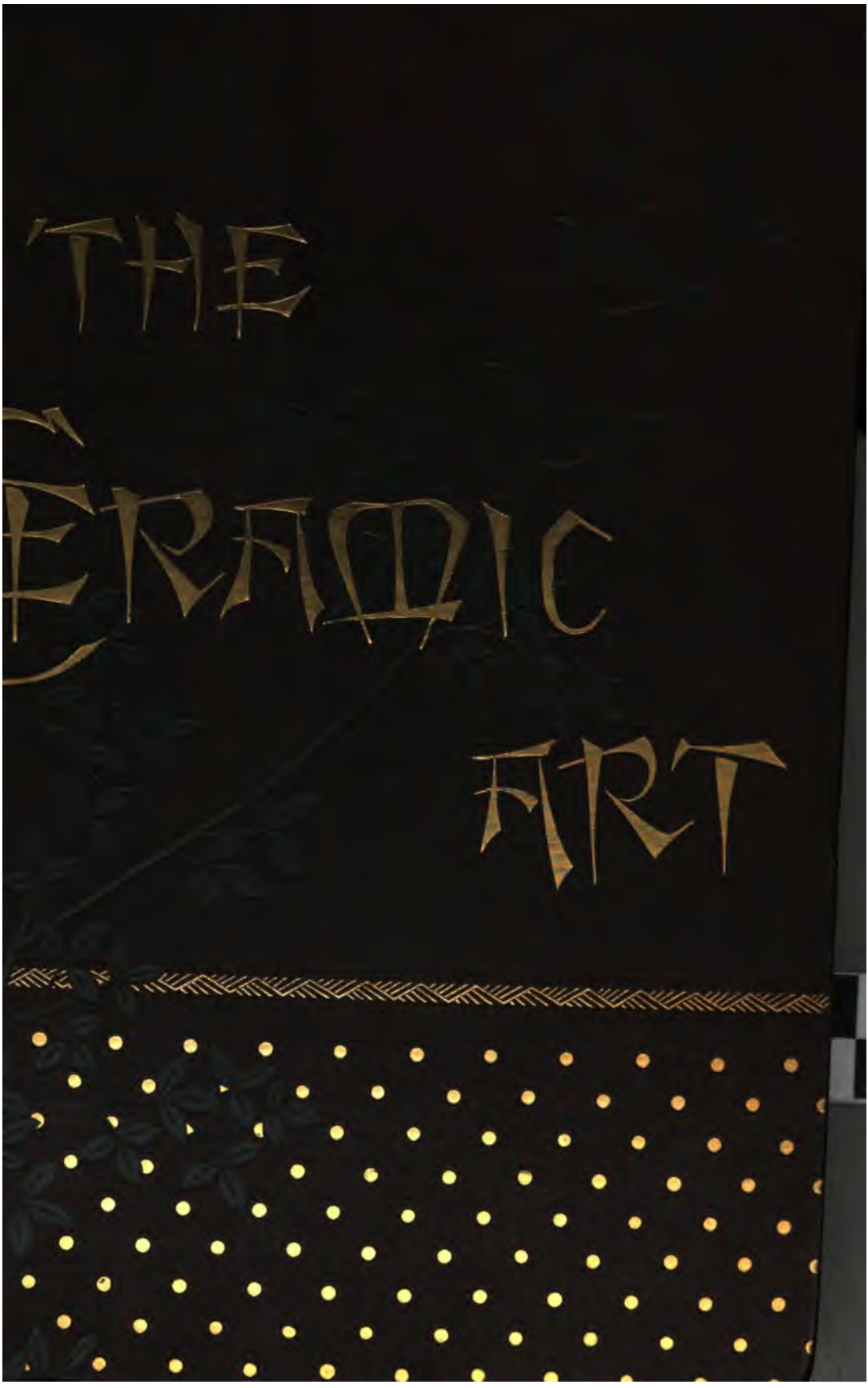
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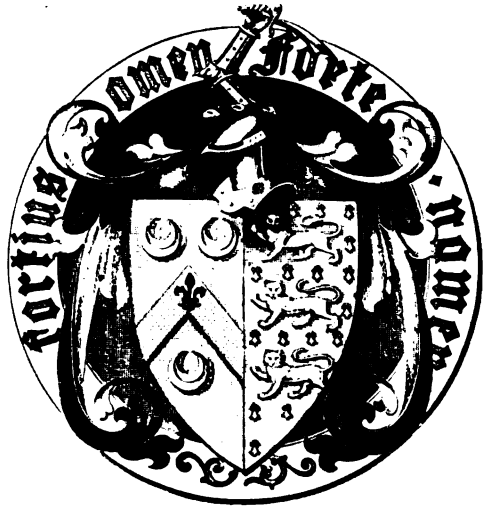

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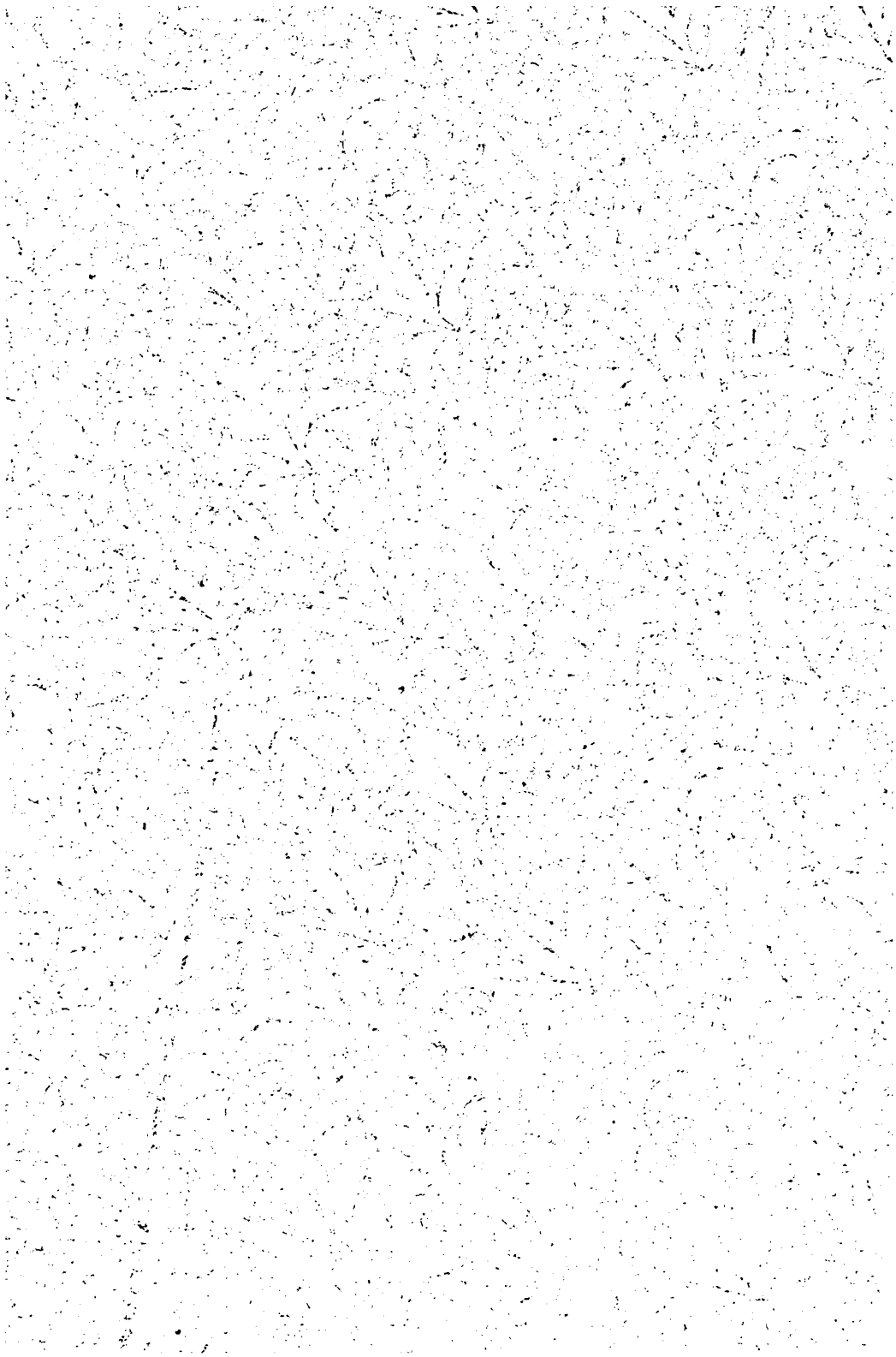

THE CERAMIC ART

THE CERAMIC ART

A COMPENDIUM OF

THE HISTORY AND MANUFACTURE

OF

POTTERY AND PORCELAIN

By JENNIE J. YOUNG

WITH 464 ILLUSTRATIONS

Argilla quidvis imitaberis uda
HORACE, EPIST., II., 2, 8

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SAMPSON LOW, MARSTON, SEARLE, & RIVINGTON
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1879

PREFACE.

In writing the present volume, the author's object has been to answer as tersely and lucidly as possible the more important questions in connection with the history and manufacture of pottery and porcelain, and to bring the results of recent research to bear upon some of the unsolved problems of the "science of ceramics." The literature of the subject is formidable in dimensions. Authors have divided the field into sections, and have in many cases presented learned and exhaustive special treatises. Notwithstanding the solid learning and critical acumen reflected in their pages, their form and voluminous character, however, detracted from their value as books for familiar and speedy reference, and left the acquirement of a general knowledge of the ceramic art a matter for wide research and prolonged study on the part of every reader and collector. The attempt has here been made to condense the leading points of the subject, to arrange them after a simple and easily intelligible method, and thus to present in one volume a comprehensive history. No hesitation has been shown in drawing upon foreign authors. Many of the later developments of the art have also been touched upon, and the results of the more recent efforts of artists and manufacturers have been illustrated and described. In treating of America, the author has endeavored to convey some idea of its wealth in materials and of the present condition and tendencies of the industry, and to do justice to those who have laid the foundation of its claim to recognition in the world of art.

The author has incurred obligations in many quarters for information and assistance. Mr. Samuel P. Avery, the Hon. Yoshida Kiyonari, Japanese Minister at Washington, General Di Cesnola, and the many private collectors whose cabinets are represented in the following pages, gave valuable aid both in obtaining illustrations and in other respects. Mr. Charles Edward Haviland, Mr. Theodore Haviland, and M. Bracquemond contributed many valuable hints upon technology and the manufacture and composition of different wares. The dealers of New York, Boston, Washington, Albany, and other cities took an active interest both in directing the author to collections and in furnishing specimens for illustration. Among American manufacturers, Mr. Thomas C. Smith, of Greenpoint; Mr. James Carr, of New York; Mr. Hugh C. Robertson, of Chelsea, Massachusetts; and Mr. J. Hart Brewer, of Trenton, are especially deserving of thanks for helping the author to a true insight into the past history, present condition, and prospects of the art in the United States.

In regard to the engravings, while it was, of course, found necessary in many cases to cull from the rich accumulations of ceramic treasures in Europe, in order to secure the proper illustration of the work, the preference has invariably been given to the collections of America. Such a course recommended itself for obvious reasons. It was thought that it would, in the first place, gratify those desirous of knowing where, in this country, the best representatives of the art of certain countries are to be found; and that, in the second place, it would direct artists where to study the best styles of decoration. One result of the author's investigations in this matter has been the conviction that the American collector is cosmopolitan in his tastes, and that the American cabinet—in many instances the American tea-table—represents the amity of nations. The arts of all countries are found arrayed side by side in a profusion of which it would have been hard, a few years ago, to find a trace.

In choosing the pieces to be engraved, a threefold aim has been kept in view: the elucidation of the text, the representation of the

greatest number of different wares by characteristic examples, and the introduction of as many beautiful works of art as possible consistently with the accomplishment of the two previous objects. The requirements of the student of decorative art have been fully considered, and due weight has been given to the fact that these requirements can be met better by the pencil than the pen.

In procuring specimens, the author has acknowledgments to express both to private collectors and to the curators of public institutions. Among the latter may be mentioned General Loring, of the Boston Museum of Fine Arts, and Mr. H. C. Hutchins, of the Metropolitan Museum of Art in this city, both of whom admitted the author to a close inspection of the collections under their charge, and personally superintended the taking of sketches and photographs. Similar favors were received from the trustees and Dr. M'Leod, of the Corcoran Art Gallery; from Professor Baird and Mr. Cushing, of the Smithsonian Institution, in Washington; and from the officers of the United States Geological and Geographical Survey of the Territories. Mr. Edward Bierstadt of New York, and Mr. T. W. Smillie of Washington, also granted facilities and volunteered courtesies which proved invaluable.

Casual reference is made in the following pages to the marks of factories and artists, but after due deliberation it was decided not to make them the subject of special treatment or illustration. Several good manuals are already in the hands of the public, and a book of marks should never take any other form. It is comparatively useless unless easily portable and handy. Then, again, marks are, and always have been, imitated to such an extent that they are not the most trustworthy guides to the parentage of specimens. Collectors who buy pieces for the sake of the mark they bear may be deceived; those who buy for the sake of beauty may occasionally be mistaken; but a cultivated taste can never be deluded into finding beauty in the unbeautiful. The art, and not the mark, should be studied; and the fact that many of the finest and most highly valued specimens—Chi-

nese, Japanese, Persian, Saracenic, Greek, Italian, and many modern wares—have no mark gives additional point to the observation.

If the present work should be found defective in certain points, it must be remembered that it could hardly be otherwise, considering its scope and limits. The author will be satisfied if, besides answering its primary purpose, it should increase the interest already awakened in the subject of which it treats, and lead students to appreciate and examine the collections at their command in this country.

J. J. Y.

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THE CERAMIC ART.

INTRODUCTION.

Advantages of the Study.—The Lost Origin of the Art.—Ascribed to the Gods.—Legends of China, Japan, Egypt, and Greece.—Keramos.—A Solution suggested.—How Pottery illustrates History.—How it explains the Customs of the Ancients.—Its Bearings upon Religion.—Examples from Egypt, Greece, and China.—The Art represented in Pottery.—Its Permanency.—As a Combination of Form with Drawing and Color.—Greek Art.—Its Merits and Defects.—The Orientals, and their Attention to Color.—Eastern Skill.—The Aim of Palissy.—The Highest Aim of the Ceramic Artist.—Painting on Porcelain.—Rules to be Observed in Decorating.—Where Color alone is a Worthy Object.—How the Art affords the Best Illustration of the Useful combined with the Beautiful.—Its Place in the Household.

The history of ceramic art carries us back to ages of which it has furnished us with the only records. Beginning almost with the appearance of man upon the globe, it brings us down through the intricate paths of his migrations to the time in which we live. Historically, therefore, the study of the art is not only replete with interest, but promises much benefit to the student. The forms under which it appears are so varied, the circuitous route it has followed leads to so many lands and among so many peoples, and the customs it illustrates are so distinctive of widely separated nationalities, that its history is co-extensive with that of humanity. In many cases it supplies us with information regarding nations whose works in pottery are their only monuments.

Were we, therefore, to attempt to find its origin, we might go back as far as written history could guide us, and then find proofs of its existence in a prehistoric age. It is curious to observe that, as we compare the earliest productions of different countries, we discover a similarity between the crude ideas to which they owe their origin.

It is equally remarkable—and the fact is worthy of notice as pointing to the great antiquity of the practice of working in clay—that all nations of whose early religious ideas we have any knowledge ascribe its inception to the gods. Daily habit demonstrated its utility, and gratitude found a cover for ignorance, in bestowing upon the heavenly powers the credit of inspiring man with a knowledge of the capabilities of the plastic clay.

Reason supplies an easy solution of the problem, but one not likely to occur to the unreasoning man of the primitive world. "On the day," says Jacquemart, "when man, walking upon the clayey soil, softened by inundations or rain, first observed that the earth retained the prints of his footsteps, the plastic art was discovered; and when lighting a fire to warm his limbs or to cook his food, he remarked that the surface of the hearth changed its nature and its color, that the reddened clay became sonorous, impervious, and hardened in its new shape, the art was revealed to him of making vessels fit to contain liquids." The reason of the nineteenth century conflicts strangely with old-world opinions of what was due to beneficent deity. Of this we can easily find abundant illustration. Let us take, as examples, China, Japan, Egypt, and Greece. We will find that each reverts to the misty boundary between legend and history, or to the earlier age when the gods had not deserted the world—the horizon of mortal vision or fancy, where heaven seems to touch earth. It is said that nearly two thousand seven hundred years before the Christian era the potter's art was discovered in China by Kouen-ou. This was during the reign of the enlightened Emperor Hoang-ti. Of him it is recorded that after many labors for the good of his subjects, the amelioration of their condition, and the extension of their knowledge, he was translated to the upper sphere on the back of a huge and whiskered dragon.

The Japanese follow a precisely similar course. Having no real knowledge, they call imagination to their aid, and solve an historical problem by the creation of a legend. Turning back to a period long before history begins, they affect to find the inventor of pottery in Oosei-tsumi, a legendary being who lived in the age of Oanamuchi-no-mikoto, and conferred upon him the title of "Kami," distinctive of deity.

The Egyptians, more reverently, gave the art directly to the gods. Having a pantheon, they merely singled out that one of its occupants to whom the honor should be ascribed. As Osiris is their Bacchus, and Thoth their Mercury, so to the director Num, the first creature, they ascribe the art of moulding clay. Like the Hebrew Jehovah, he first made the heavens and earth, the firmament, the sun, and the moon, and, from the fact of his having made the rivers and mountains, would appear also to have evolved order out of the Egyptian chaos. Lastly, he made man. Turning the clay of the Nile upon his wheel, he fashioned the last and greatest of created things, and having "breathed into his nostrils the breath of life," made man the corner-stone of the fabric of creation. Inspiration and monotheism apart, it would almost appear that the Jewish law-giver found in the hated "house of bondage" a foundation for his cosmogony.

In how many instances did the Greeks lay the honors due to some forgotten mortal at the feet of a god or a semi-divine hero? To them Inachus, who about 1800 B.C. founded the kingdom of Argos, was not the leader of a band of adventurous emigrants from Egypt, but a child of the sea over which he came, a son of Oceanus and Tethys. It was only when Gelanor, the last of the race of Inachus, was deposed by Danaus, that we find a Greek recognition of the early connection of that country with Egypt. Danaus was the son of Belus, and brother of Ægyptus, jointly with whom he occupied the throne of Egypt. Quarrelling with his brother, Danaus set sail, and, arriving at Argos, rose to the throne by the means above indicated. These statements are only of value to our present purpose as showing the close connection between Greece and Egypt, and pointing to the conclusion that Egypt dropped the germs of that art which Greece cultivated to such perfection that it won the admiration of the world. If we turn to the origin of pottery accepted by the Greeks themselves, we are confused by the liveliness of their teeming imagination. The exercise of fancy takes the place of an undeveloped historical sense. When Jupiter wished to punish the rash impiety of Prometheus by giving him a wife, Vulcan made Pandora, the first of mortal women, out of clay. Prometheus is one of the strangest figures in Greek mythology. He laughed at the whole Pantheon, cheated the great Jove himself, and was yet a benefactor of mankind, after he had created

the species; for to him also is ascribed the creation from clay of the first man and woman. Thus the gods and heroes were potters, and the art was practised by them before mortal life began. To two Corinthians, one Athenian, and one Cretan, the invention of the plastic art has been attributed; but, passing these by, let us turn, for philological reasons, to the legend of Keramos. The story of the adventures of Theseus is pretty well known. By the help of Ariadne, he killed the Minotaur of Crete, and escaped from the Labyrinth, and, having subsequently abandoned his fair assistant on the island of Naxos, she is said by some to have hanged herself in despair. Others, however, assert—and to their tale we must listen—that in the arms of Bacchus she found solace for her sorrows. Their son Keramos was the patron of potters, and to his name we owe our word "keramic" or "ceramic." When the Argives pointed out the tomb of Ariadne, her ashes were deposited in an urn in one of their temples, so that by means of the art attributed to the son, the mother's remains were preserved.

It is thus made clear that the practice of making vessels of clay had no origin to which we can now turn back. The art was born in the "twilight of the gods," whose productions are now used in illustrating the pages of history. Even in these wild fancies there is a germ of truth. The first attempts at moulding in clay had a common origin in the necessities of man, and the promptings of nature to supply them. The material was on all hands ready for use; and why should the men of antiquity be held to differ from the children of after-ages, or those of our own time? To one the suggestion may have come from one source, to another it may have come from another; and unless we choose to bind ourselves to the narrative of the building of the great Tower of Babel, and the dispersal of races, we may be led to think that its origin may have been manifold, as its rudest attempts have certainly been discovered in places wide apart.

On the sea-shore the child builds its house and mill, giving by the help of water a certain consistency to the inadhesive sand. On the roadside, or by the pond's rim, it shapes the oozy mud into the forms suggested to childhood's imitative instinct. One of the earliest and most beautiful of the legends relating to the youth of Christ has reference to this very matter. He was engaged with his playmates in

making earthen birds. His efforts were clumsy and his art rude, and his companions jeered him, until the birds he had made became living things, and flew away. Let us by all means concede this to have been an impossible miracle, based upon an idle legend. Yet it proves that either in the early days of Galilee, or in those of the inventor of the tale, the habits of children differed in no degree from those of to-day. A kind of instinct would almost appear to lead them to model and imitate in clay; and putting primitive man upon the level of childhood, there is no reason for believing that the plastic art had not several independent origins.

Fig. 1.—Old Sèvres Patetendre. Fontenoy Vase, commemorative of the Battle of Fontenoy. Painted by Genest. (M. L. Double Coll.)

The manner in which pottery illustrates history brings us to one of the most interesting features of the study (Fig. 1). While the connoisseur is deep in the history of the art itself, the student prefers to view it in its relation to that of mankind. It suggests difficulties, confirms deductions, and offers hints for the solution of the problems of history. The memory of extinct nations is perpetuated by the clay records which have survived their submergence in the tide of time. In these we may read, as in a book, of the gods they worshipped, of their daily life, of their death and burial. Historians now, in fact, consult the relics of the potter's art with as much confidence and readiness as they would turn to the pages of an old-world chronicle. Migrations, intercourse, and conquest have all been

recorded in clay. One might in that way define with the utmost exactness the line bounding the vast empire of Rome. The bricks or tiles, placed over the graves of the soldiers or found in their camps, show the stations of the legions and the extent of conquest. Wherever

"the Empress of the world
Of yore her eagle wings unfurled,"

in England, Scotland, France, Germany, Jerusalem, or elsewhere, there have been found tiles or bricks stamped with the number of the legion or its distinctive appellation. The tragic end of Quintilius Varus is known to all readers of Roman history. A Roman proconsul of high birth, and enriched by the governorship of Syria, he was appointed to the command of the army confronting the hordes of Germany. Surprised by the German chief Hermann, or Arminius, his army was almost annihilated, and he, in despair, after the fashion of his time, sought death by his own hand. The Emperor Augustus wailed for months, "Varus, give me back my legions," the legions which were lying on the field, at the farthest point to which the armies of Rome had penetrated, and also the farthest in that direction, at which any specimens of Roman pottery have been found. From the funereal urns of the Greeks we are enabled to tell how far they pursued their conquests in any direction. Other nations left, in the lands to which their arms were carried, similar mementos of their presence, which, on being exhumed, after lying for centuries covered thickly over by the dust time is continually spreading over the past, are transferred to the page of history.

A very forcible example of the historical value of earthen-ware is found almost at our very door. Irving relates, in his "Life of Washington," that, not long after his birth, his father removed to Stafford County, near Fredericksburg. The house stood on a knoll overlooking the Rappahannock. This was the home of George's youth. The meadow between the house and the river was his play-ground. But this home, like that in which he was born, has disappeared; the site is only to be traced by fragments of *bricks*, *china*, and *earthen-ware*. Another example may be taken from a paragraph which appeared in the daily papers very recently, in which it was stated that two *amphoræ*—the name given to the Greek two-handled, oval-bodied vases

(Fig. 2) with pointed base, which have been found wherever Greek commerce extended—containing fifty thousand coins of the Emperor Gallienus and his immediate successors, had been discovered at Verona. Nearly all were as fresh as when coming from the mint. Gallienus assumed the purple A.D. 260, and reigned for eight years before he was assassinated at Milan. For over fifteen hundred years, therefore, these vases preserved their numismatic treasures.

Still another instance may be mentioned in which the close connection between history and its handmaid, pottery, is illustrated. Some time ago certain travellers in Egypt purchased a number of

Fig. 2.—Greek and Phœnician (on right) Amphoræ. (Cesnola Coll., N. Y. Metropolitan Museum.)

small jars (Fig. 3) of a kaolinic composition, which they were told had been taken from the tombs. They were evidently, from the style of decoration and the characters they bore, of Chinese manufacture; and the first conclusion was, that, as evidence was not wanting to show that one of them had been taken from a very old tomb on its being first opened, they were possessed of a highly venerable antiquity. Subsequent investigations, however, showed that they had been obtained from certain ports on the Red Sea, and were to be ascribed to a comparatively recent date. The discovery subtracted about two thousand five hundred years from their age. But how came these Chinese vases to find their way to the commercial cities of the Red

Sea? Before navigators had learned that the great highway between Europe and the East was round the South of Africa, intercourse was maintained either by the overland route or through the Persian Gulf. This accounts for the abundance of Chinese porcelain found in Persia. Some of the specimens may have been left on the western side of the Gulf, and have thence found their way across Arabia to the shores of the Red Sea, whence they were obtained by the fraudulent venders of Lower Egypt.

Fig. 3.—Chinese Bottles found in Egyptian Tombs.

In this way the intercourse of nations may frequently be explained by the help of pottery. Not only, be it observed, may it be taken as an indicator of the movements or extension of the nations themselves, but of the manner and extent of their intercourse with the rest of the world.

As an exponent of the customs of antiquity, its aid is of the highest value. We learn, for instance, that among the Greeks the usual custom was to mix wine in one vessel, cool it in another, draw it from the latter into jugs, and from them fill and replenish the beakers or cups of guests. We can see anywhere to-day tiny tea-sets for the amusement of children. The Greeks had something closely akin to them. Vases were given to children, as toys are given now. Some of those discovered are so limited in their dimensions that they could not have been used for any other purpose, and on others are depicted the games in which children engaged. Of all the uses to which an earthen jar could be put, certainly the most singular was that discovered by Diogenes, when he chose one for his habitation (Fig. 4).

That such was the case there is strong reason for believing. This statement is one which may disconcert popular belief, and break off the association between the philosopher and a "tub;" but the authorities in favor of his home being a huge jar are tolerably decisive. A tub, moreover, scarcely seems to meet the requirements of the occasion, whereas it is easy to imagine a *pithos* satisfying the limited demands of Diogenes in the way of house-keeping. Nor was the whim of the philosopher without parallel. It is said that during the Peloponnesian war the Athenians lived in similar vessels. The *pithos* occupied by Diogenes was cracked and patched; and these vessels, when unfit for other use, were, long after his day, used as dwellings by the poor.

Vases were presented as prizes (Fig. 5) to the victors in the athletic games; and it is from these and other kinds deposited in sepulchres, that we derive the greater part of our knowledge of Greek ceramic art. Not only were they used—at least after the earliest days of Greece—to hold the ashes of the dead, but were evidently employed as tokens of respect or affection. Thus, the vases the deceased had most admired or used in life were placed in the tomb, along with others containing the remains of the funeral feast, and those employed in the last rites. The *amphora* was devoted to all kinds of domestic uses. The *rhyton* was a drinking-cup (Fig. 6). There were special vessels for oil and unguents; and the different kinds of wine-jars and drinking-cups present an almost endless variety of shapes, and, especially the latter, a most wonderful beauty of form. Of these, the *kylix* affords a good example

Fig. 4.—Diogenes in Pithos.

(Fig. 7). In this way we see that, from childhood to the grave, the customs of the Greeks are illustrated by their pottery. We pass by, in the mean time, with a mere reference the numberless mythic themes decipherable in the decoration of their vases.

Fig. 5.—Greek Prize Vase.

We meet with a precisely similar state of things among the Chinese. We can only study the pottery of that people after familiarizing ourselves with their religion. How otherwise can we understand the quaint figures and designs which meet us at every turn—the God of Longevity, Pou-tai the God of Contentment, their manifold dragons, the Kylin, the Dog of Fo, or the Fong-hoang? Colors and shapes, as well as animals, are employed as symbols. As the crane symbolized long life, so were certain colors and forms distinctive of social rank. Let us take a vase and study it closely, observe its proportions and decoration, and these will guide us to its purpose and to the rank of the individual making use of it. Vases and images tell of both the public and private worship of the Chinese, and of the manner in which it was conducted. The excess to which the Chinese carry the duties of hospitality and courtesy has been frequently commented on. It would be hard to imagine anything showing better the refinements of which etiquette is capable, than their manner of decorating their reception-rooms, so that they may be filled with the mildest incense of flattery to the expected guest. Should he be a soldier, vases stand

on all sides, decorated with the warlike scenes best suited to his professional taste. Should he be a poet, war is changed to literature, and vases are chosen which recall the great names of the profession. After a manner similar to that in vogue among the Greeks, pottery and porcelain were used by the Chinese as media for the conveyance of compliments and good wishes, and as special marks of honor. They were conferred on the officer by his sovereign, and passed between friends at the customary times of rejoicing.

Fig. 6.—Greek Rhyton. (Trumbull-Prime Coll., N. Y. Metropolitan Museum.)

We approach Egypt, in this connection, with a certain amount of awe. We examine its early pottery with a sensation similar to that with which we view a mummy. It comprises relics of a civilization of so hoary an antiquity, that to study them is like peering into the secrets of the grave. It is, in fact, from the tombs that the treasures have been exhumed which enable us to trace Egyptian ceramic art. They tell of customs followed long before the Persian Cambyses

> "O'erthrew Osiris, Orus, Apis, Isis,
> And shook the Pyramids with fear and wonder
> When the gigantic Memnon fell asunder."

Some of the specimens date from the Third Dynasty, about four thousand years ago. There is now in existence a porcelain box bearing one of the names of Amasis II., the king whom Cambyses overthrew

Fig. 7.—Kylix, with Gorgon and Eyes.

six hundred years before our era began. The earliest relics may be said to have been coeval with the invention of a written language.

A very curious custom may be allowed to arrest our attention for a moment. In the tombs previous to the sixth century B.C., have been found cones (Fig. 8), having inscriptions on their base. From these we learn the occupants' names and office, whether scribes, priests, or nobles. They served, in short, all the purposes of the inscriptions on the tombs of our day, or of labels for establishing the identity of the dead. Terra-cotta figures have also been found in some graves, bearing, like the cones, the name and title of the deceased. In the same connection may be mentioned the peculiar, and to us revolting, usage of devoting vases to holding the viscera of the embalmed body.

The multitudinous domestic uses of jars cannot here be enumerated. We know that they were devoted to purposes which would now be considered somewhat at variance with the legitimate object of the manufacture of earthen-ware. We might almost say that all the receptacles designed in modern times for domestic convenience, such as baskets, boxes, and tin utensils, have their counterparts among the earthen fabrics of the Egyptians. Nor must we stop there if we observe the many other purposes of ornament and religion to which their ceramic wares were devoted. The Egyptians had an idea that the physical wants of the deceased did not come to an end with life, and they accordingly placed in the tombs jars with meat and drink for consumption after death. Of these jars, many had unquestionably been previously employed in the household. From such and other sources we learn that earthen pots were employed in cooking, as those of metal are with us, that certain vessels were used for holding water; others for the juice of the grape, for butcher-meat or poultry, for cosmetics, and, stranger than any, for holding the flax while it was being spun. Manuscripts, or papyri, have also been discovered in them; so that it may easily be seen how important a part pottery played in the every-day life of the Egyptians.

Fig. 8.—Red Earthen-ware Cone. (Trumbull-Prime Coll., N. Y. Metropolitan Museum.)

If we turn to their glazed ware, or porcelain, as it has been called,

we find it much more extensively applied to decorative purposes. The unglazed was almost exclusively restricted to articles of a domestic kind. The glazed ware was employed in tiling, and inlaying coffins and boxes, and in the making of various vases and cups. Balls, presumably for the amusement of children, and other toys sometimes also made of pottery (Fig. 9), ear-rings, the pieces for a game akin to draughts (Fig. 10) or checkers, amulets, beads, necklaces, small figures of the gods (perforated), emblematic animals, finger-rings, and sepulchral figures, have all been found of this material. The extent to which such discoveries illustrate the customs of the Egyptians need not be enlarged upon.

Fig. 9.—Ball of Painted Earthen-ware. Egyptian.

Having thus brought forward China, Greece, and Egypt as instances, it is hardly necessary to pursue this line of inquiry further. It may be said, in the broadest language, that every nation of whose ceramic productions we have any specimens, have in them reflected their religion and customs, and thus furnished most important aids to the construction of their national history.

Literature has been enriched by figures drawn from the ceramic art. Some of the most effective similes of Biblical writers are thus derived. It is under the type of a potter that Jeremiah represents God as showing his absolute power over the Israelites: "Behold as the clay is in the potter's hand, so are ye in mine hand, O house of Israel." In a similar manner, St. Paul typifies the divine control over man. "Nay but, O man, who art thou that repliest against God? Shall the thing formed say to him that formed it, Why hast thou made me thus? Hath not the potter power over the clay, of the same lump to make one vessel unto honor and another unto dishonor?" It is this absolute "power over the clay" which led men to use it for the conveyance of their first conceptions of the beautiful. The pottery of all countries shows how religion stimulated art, by furnishing it with themes, and infusing into it a spiritual signification which all could understand. The pottery of the Greeks shows best how art may embellish religion and history, and perpetuate

Fig. 10.—Draughtsman of Glazed Pottery, from Thebes.

the legends belonging to neither. To the above may be added the very effective simile employed by Plato in characterizing Socrates: "The outside of the vase is scrawled over with odd shapes and writing, but within are precious liquors and healing medicines, and rare mixtures of far-gathered herbs and flowers."

And thus, by a short step, we reach the art represented in pottery. It supplies, beyond all question, the best means of observing the growth of intelligence and the expansion of artistic ideas. The very qualities of clay which led to its being used in the gratification of awakening necessities, led also to its being adopted for the expression of the first inspirations of art. When the Assyrian potter first ornamented the brick he had moulded (Fig. 11), the mechanical pursuit was elevated to the sphere of art. The same course was followed among all nations. When the discovery was reached, that clay could be made serviceable for building or for household vessels, decoration sooner or later suggested itself. Either forms were varied and became in themselves ornamental, or a superficial decoration was resorted to. The useful led to the beautiful, and their combination, as seen on the dinner-tables of our day, is the natural result of a universal process by which nations have advanced from rude and unskilful ignorance to art. The aboriginal American potter decorated his coarse vase with a few scratches made with a stick; his modern successor moulds his porcelain into graceful forms, and brings to its ornamentation a palette of bright colors, a trained hand, and a cultivated taste. The one is a relic of barbarism, the other a work of civilization, and both are the fruits of a combination to which all nations have been irresistibly led, viz., the useful with the beautiful. This course has been universally followed, and may, for that reason, be called natural. Man in every part of the world has given vent to his instinctive longing for that which, to him, represents beauty in the embellishment of objects in daily use. It is by the consideration of such facts that we learn to appreciate fully the bearing of pottery upon art and history. Upon this point Dr. Birch says: "By the application of painting to vases, the Greeks made them something more than mere articles of commer-

Fig. 11.—Enamelled Babylonian Brick. (Louvre.)

cial value or daily use. They have become a reflection of the paintings of the Greek schools, and an inexhaustible source for illustrating the mythology, manners, customs, and literature of Greece. Unfortunately, very few are ornamented with historical subjects, yet history receives occasional illustration from them; and the representations of the burning of Crœsus, the orgies of Anacreon, the wealth of Arcesilaus, the tributes of Darius, and the meeting of Alcæus and Sappho, lead us to hope that future discoveries may offer additional examples."

This passage leads directly to the consideration of the permanency of ceramic works as compared with those of other branches of art. The "reflections of the paintings of the Greek schools" have come down to us in all the beauty they possessed on first leaving the artist's hand. We may allow Mr. Ruskin to state the reverse case, and draw the conclusion. "It is surely," he says, "a severe lesson to us in this matter, that the best works of Turner could not be shown for six months without being destroyed—and that his most ambitious ones, for the most part, perished before they could be shown. I will break through my law of reticence, however, so far as to tell you that I have hope of one day interesting you greatly (with the help of the Florentine masters) in the study of the arts of moulding and painting porcelain; and to induce some of you to use your future power of patronage in encouraging the various branches of this art, and turning the attention of the workmen of Italy from the vulgar tricks of minute and perishable mosaic to the exquisite subtleties of form and color possible in the perfectly ductile, afterward unalterable clay. And one of the ultimate results of such craftsmanship might be the production of pictures as brilliant as painted glass—as delicate as the most subtle water-colors, and more permanent than the Pyramids." Both these writers thus refer to permanency as a feature of the potter's art, which lends it a special importance. Whatever form the art may have assumed, it is, when applied to pottery, practically imperishable. By his allusion to the effect of time and exposure upon the paintings of Turner, Mr. Ruskin invests the results he contemplates with a certain kind of grandeur. He has in view the culminating point of ceramic art, the apex to which the works of the artists of all time lead up step by step. What process he would adopt, or what forms of the art he would discard, we need not now inquire. It will be sufficient to take our stand

at the point indicated—the perfection of form and decoration—and observe how the artists of the past have approached it, and to mark the ideas by which they have been influenced.

The ceramic is the union of two branches of art, the architectural and the graphic. It combines form and proportion with drawing and color. It is unnecessary here to define art in the abstract; but there are certain general principles which may help us to estimate the works of the ceramic artists of all countries. Of these, the first is thus stated by Ruskin: "The entire vitality of art depends upon its being either full of truth or full of use; and however pleasant, wonderful, or impressive it may be in itself, it must yet be of an inferior kind, and tend to deeper inferiority, unless it has clearly one of these main objects—*either to state a true thing, or to adorn a serviceable one.* It must never exist alone—never for itself.... Every good piece of art ... involves skill, and the formation of an actually beautiful thing by it." The "statement of a true thing" referred to in the passage quoted is Similitude, one of the philosopher-critic's essentials in the graphic arts. In the architectural arts, including pottery, he demands Skill, Beauty, and Use; in the graphic arts, Skill, Beauty, and Likeness. If, however, we keep in mind what Dr. Birch says of the vases of Greece being a reflection of the Greek school of painting, and also Mr. Ruskin's desideratum of pictures upon exquisitely moulded porcelain, we shall see that the essentials of the ceramic art, as a special branch, comprise those of both the architectural and graphic divisions —Skill, Beauty, Use, and Similitude. In one respect, therefore, it may be said to be the highest of all the arts.

The rule thus laid down can be easily applied, and is capable of various modifications to suit the special object upon which it is brought to bear. Thus, a work of art may represent Skill alone. Add, to equal Skill, the second essential, Beauty, and the work will rank higher in art. Invest an object for Use with both Skill and Beauty, and it is raised still higher. If to these Similitude be added, the work will be estimated according to the degree in which it possesses the four essentials. It is obvious, however, that in the works of the ceramic artist, it is neither always possible nor desirable to aim at bringing the four essentials together; and this fact will receive ample illustration from what follows. The rule has been modified

by every nation according to its views of art and beauty. It is better to recognize the good in all, than to accept one standard and exclude all others. Catholicity of sympathy and breadth of appreciation are as necessary to the collector's enjoyment as to the student-artist's benefit. Should the one raise an inflexible standard by which to measure his admiration, or the other allow only one carefully defined style to kindle his emulation, both will shut out the greater part of the world of art. Every work of art is an expression of feeling, and, to appreciate it, it is necessary to make as near an approach as possible to understanding the sentiment it embodies. The form of expression varies with different nations and with different men; and to catch all the fine and elusive shades of feeling surrounding the art of different times and peoples, the cultivation of a keen and sensitive perception of beauty is better than voluntary slavery under a despotic and arbitrary rule. Art is the universal language in which humanity has couched its ideas of beauty. The form of expression varies, but the impulse is everywhere fundamentally the same. We have endeavored to put in words rather the common aim of all, than a rule by which to measure individual endeavor. It does not follow that all efforts are equal. Some have approached the common object by one route, and others by another, and some have approached it nearer than others; but in no case can one be singled out as the only correct course, to the condemnation of all others. The true artist will combine the best features of all achievements, and so win a place nearer the goal than his predecessors. If we find one artist excelling in form, and another in color, he who combines excellence of form with beauty of color will surpass both. The narrowness of schools and the vagaries of fashion have been a burden upon art; and the less we allow ourselves to be enthralled by either, the greater will be our enjoyment of artistic work. The more rigid our rule, the more precarious is its existence. The standard of yesterday is to-day looked upon with a feeling akin to contempt. Methods, models, ideals change; and the wise man is he who can see the merits and shortcomings, the beauties and defects, of all.

We have said that different nations have shown in different ways their sense of the aims and possibilities of ceramic art. The works of the Greeks indicate an absorbing admiration of elegance of form

and figure-drawing. Their vases mark the second step in the progress of decoration. Firstly came linear ornamentation, and then light and line, of which all the Greek vases are examples. If, then, the Greeks in their best days had only reached the second step in decoration, to what must we ascribe the wonderful influence of their art? Certainly it is not in the subjects they chose to illustrate that its charm consists.

Taking our stand in ancient Greece, we may glance along the whole line by which the art has progressed toward an approximate perfection, and at the same time see in what the Greeks were pre-eminent, and in what they were deficient. "To Greece," says one writer, "was intrusted the cultivation of the reason and the taste. Her gift to mankind has been science and art." Her highest idea was beauty. She left behind her canons of taste, beyond which, in their special application, we have not advanced, and have little hope of advancing. We are not, therefore, surprised when a writer on pottery reminds us that "to every eye familiar with works of art of the higher order, the cleverest imitations of nature, and the most elegant conceits of floral ornaments, whether exhibited in the efforts of Oriental or European potters, appear coarse and vulgar when contrasted with the chaste simplicity of the Greek forms." If we would appreciate the full truth of this, we have only to make comparisons in any sufficiently extensive collection. The Greeks took the articles of daily use, and made them representatives of their ideas of beauty in both form and ornamentation. In this they followed the examples set them ages before. In accomplishment only they were alone. While, therefore, we study some as mere examples of skill, or curiosities of design, we study the Greek forms as embodying our highest ideal of beauty.

Let us now examine that in which they were deficient, and see how others have tried to remedy it.

There are branches of the art which the Greeks either did not study, or studied without success. They give little evidence of having been able to appreciate color or to understand its uses. They, as Ruskin says, painted anything anyhow — gods black, horses red, lips and cheeks white. They attained to a certain unsurpassable elegance of shape, and the beautiful outlines of their human-figure ornamenta-

tion can at times hardly be sufficiently admired; but their coloring was purely conventional, and its application but little understood. Its changes may be noticed with some curiosity. At first the favorite ground was a pale cream-color, which, later, turned to a redder tint, and human took the place of animal forms. The vases in what is called the "old style," show black figures and ornamentation in monochrome, with the exception of female faces, which are white, and eyes red. The effects of perspective are only occasionally tried. White was used for the hair and beard of old men. Coming down next to the highest art of Greece, the ground is black, the figures red, and the ornamentation white. Specimens belonging to this period show advance chiefly in the drawing and expression. We remark further, that, besides the use of conventional colors, the Greeks did not care to copy nature too closely, and thus in two distinct ways showed their indifference or inability to introduce into their art the element of likeness. When Jacquemart says that "no natural object, be it plant, bird, or animal, is rendered in its real form, or in its intimate details," he gives expression to a fact which shows the distinction between Greek ceramic art and that in which a nearer approach is made to similitude by the use of correct drawing and color.

Fig. 12.—Japanese Hexagonal Vase. Deep blue ground. Figures in dark brown, three shades of green, and yellow. Height, 16¼ in. (R. H. Pruyn Coll.)

The Orientals went to the opposite extreme. They delighted in bright and gorgeous decoration to an extent that, but for their many intensely realistic works, would lead to the belief that the production of certain effects in color was the highest object of their artists. Their strength lies in their coloring. Nowhere else can the same skill be found in the harmonizing of shades usually deemed discordant, and nowhere else have colors the same brilliancy and depth (Fig. 12). The Japanese and Chinese, in particular, appear to have thoroughly grasped the true place of color in the

decoration of curving surfaces, from which the brilliant glaze reflects the light. The artists of Sèvres, anticipating in a manner Ruskin's idea, embellished their vases with compositions similar to those on canvas. They made the mistake of thinking that the artist's work is independent of the surface on which it appears, whereas perspective is altered and sometimes destroyed by the curvature of a vase and the brilliancy of the enamel. The artists of the Orient, on the other hand, either restrict themselves to subjects which can be treated upon a judiciously limited part of the surface, or throw aside compositions entirely, and trust to floral designs, isolated figures, repetitious decoration without unity of design, or to beauty of colors alone. Everything contributed to exalt their estimation of color for its own sake, and to it we accordingly find that they devote the regard entertained by the Greeks for form. Any ulterior use of color, as for picture-painting on the flat surface of porcelain plaques, does not appear to have occupied their attention to any very great extent. It is in isolated figures and flowers that we can best study the marvellous delicacy of the Chinese or Japanese brush, and the fidelity with which the suggestions of nature are followed. There is little absolute imitation. Color is paramount, and its beauty obscures the incongruities of Oriental art.

Fig. 13.—Persian Tile. Arabesque Decoration.

The Persians, like the Greeks, mingled the natural with the conventional. Their vases and tiles (Fig. 13) are ornamented with floral designs, in which, while some of the flowers can be distinguished, others are altered beyond recognition. Among the Mussulman Persians the enamels reached the highest point of gorgeous brilliancy: glowing red as a ground-color, dishes with bottoms covered with rich arabesques—everything set in tints of the most pronounced and striking kind. Their decorations are many-hued as the rainbow; and if at times they lack its softly melting shades, they appear at others as if

suspended in the clear and liquid glaze, as soft as the tints of early spring. White figures on a blue or yellow ground, or *vice versa*, are distinctive of much of the ornamentation of Persia. The mosque at Sultaneah (Fig. 14) is described as having its walls entirely "cased with enamelled tiles of deep blue, with yellow and white scrolls and devices." The patterns are arabesque, occasionally mingled with animal and floral forms. The finest specimens of Persian tiling at the Museum at Sèvres are in blue and white, the latter forming the ground.

These technical secrets, known centuries ago in Persia and the far East, have been coveted by ceramists down to the present day. They have been and are the most jealously guarded possessions of artists and factories, and history records many instances of the extreme precautions adopted to prevent their spread. The Japanese, for example,

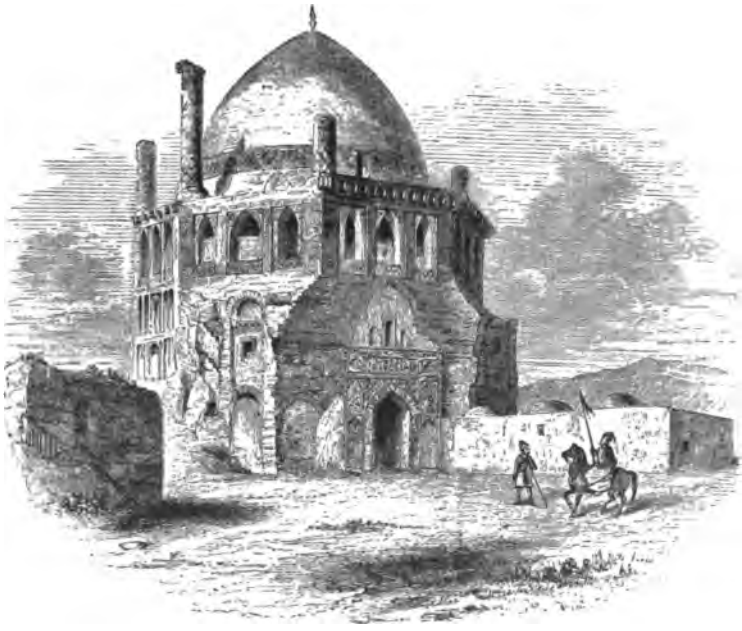


Fig. 14.—Mosque at Sultaneah. Cased, inside and out, with enamelled tiles.

although indebted to China and Corea for the foundation of the knowledge upon which the magnificent structure of their subsequent art was built, guard with the utmost care the borrowed secrets in their

possession. In a native work on porcelain it is said: "The painting and decoration of vases is a secret that it is not permitted to reveal." Similar instances present themselves on every hand. The production of any unusually beautiful color, although really only one-half of the difficulty with which the ceramic artist has to contend, is universally regarded as a triumph. Such were the efforts upon which the potters of China expended their skill, and upon which the emperors of the Flowery Kingdom bestowed rewards. There are dynastic colors, but no dynastic style of ornamentation with design. The ability to apply color to an artistic creation was a secondary matter, and went without recognition. The position of the artist and the workman were thus in a measure inverted, if we insist that the production of color is mechanical, and its application artistic. If the decoration be examined, its execution in detail will be found to be almost perfect — birds of brilliant plumage, flowers of richest hue, men and women draped in Oriental splendor (Fig. 15). In every case the colors used are those which produce the subtlest harmony. They gleam through the glaze like gems, or lie upon its surface like drops of pearl, ruby, or emerald. The drawing is precise and minute. A cylindrical Japanese vase, in Mr. J. T. Sutton's collection, is decorated with a flock of cranes. They cover the upper part of its surface, flying, turning, diving, in every conceivable attitude—a perfect whirlwind of birds. The decorator has, with astonishing skill, seized upon the varied attitudes most suggestive of motion, and has produced what might be called "a study of cranes," as far beyond the apprehension of a European artist as the minutiæ are beyond his skill. Elsewhere we may see a masterpiece of manual dexterity. It is reticulated, or articulated; or has its paste perforated, and then covered with glaze; or it may be a grotesque expression of Oriental humor. Others are decorated with designs in color, and their aspects have no monotony.

Fig. 15. — Japanese Porcelain. Cloudy gray, flecked with gold; dress, rose and gold. (Sutton Coll.)

Should one side weary, the vase may be partially turned, and an entirely new effect is secured. In it, as in that described above, there is no repetition.

In Oriental work, as a whole, we therefore find skill in manipulation, similitude in drawing, and beauty in color; and the greatest of these is color. We have seen how it was regarded by the Chinese themselves, and our collectors follow their lead. They value one piece for the rarity of its prevailing green, another for the depth of its turquoise, a third for the clearness of its blue and the transparency of its white, a fourth for the harmony of its many tints, a fifth for the skill displayed in its quaint form and decoration.

We thus reach an interesting point where some instruction may be gained. On the one hand, are the Greeks pursuing beauty of form with assiduity and marked success; on the other, are the Orientals occupying themselves with mechanical skill and the beauty resulting from color. Both were right so far as they went. Men will admire Greek pottery so long as they have any sense of elegant proportion; they will admire Oriental pottery so long as they find any beauty in the changing colors of a kaleidoscope or in a gem. The aims and ideals of the two peoples were different, and the world has not yet seen the combination of a gracefulness of form equal to the Greek with the coloring of the Orient.

Fig. 16. — Nankin Porcelain. Brown bands; base, white; body, pale green; neck, light brown. Decoration chiefly pink, green, and blue; neck and body crackled. (Sutton Coll.)

In other directions, especially in Europe, it is more difficult to unravel the lines of art, or to specify, without numberless exceptions and modifications, the distinctive aims of artists or schools. The example of the Orientals has led some manufacturers to choose the production of color as their great aim. They have no intelligent comprehension of its higher uses, as these might be studied in Chinese decoration. They form an exaggerated estimate of Oriental processes, and seek to equal the wonderful coloring of the faience of Persia or

Rhodes. If they fail, as is generally the case, they are in no way deterred from using their inferior colors as the Orientals used the riches of their palette. Instead of turning toward a new object within the compass of their lower skill, they appeal to the eye with works which, by suggesting comparison with the models that inspired them, are at once condemned. If a vase of Nankin porcelain should be placed side by side with a Delft copy, the force of this will at once be seen.

It is comparatively easy to assign a place to Palissy. His career deserves study as an illustration of the movement of art between the conventional and the natural. As we look back upon his works, we find that truth to nature, in both form and color, was the guiding motive in the production of his most remarkable pieces. We owe the romance of his life to his earnestness in attempting to solve the mysteries of enamel. "I thought," he says, "that if I could discover the invention of making enamel, I should be able to make vessels of earth, and other things of beautiful arrangements, *because Heaven had given me to understand something of painting;* and thenceforth, without considering that I had no knowledge of argillaceous earth, I set about seeking enamel like a man who gropes in the dark." The story of his trials, his failures and successes, his poverty, honors and persecutions, compose the great romance in the history of ceramics. What he attained was, first, a white enamel; then, jasper glaze of warm tints of blue, brown, and white; lastly, his *Rustiques figulines* (Fig. 17). The last was his crowning effort. We regard him both as the leading representative of French art in the sixteenth century, and as a great originator. He had made, after long struggle and endeavor, a great discovery in enamelling; but what we admire more than that is the ideal he had formed. He developed skill, and aimed at both beauty and likeness. Palissy was great because, having chosen a certain line of art, he adopted the only ideal by which he could possibly reach perfection, viz., absolute truth to nature, alike in form and color. He neither spared himself nor overlooked any detail. His moulds were formed from living specimens. We recognize every ornament—shells of the district round Paris, reptiles and plants from the same places, and fish from the Seine. He did not dare to improve or conventionalize. He preferred nature as he found her; and his wisdom was genius. What we wish chiefly to note is, that here was an artist

who used the beauties of enamel for the reproduction of the natural. He not only moulded the clay into the forms of living things, but reproduced the colors of his models. No better examples can be given of Similitude. It hardly seems possible that his was a branch of the same art that we have seen in the East and in Greece. The fact of its being so merely shows the wide scope of ceramic art, and the infinity of the forms it may assume.

Having chosen representatives of three different components of what we have assumed to be the highest form of art, we may now glance at the end in view, and see to what extent the lower forms

Fig. 17.—Palissy Dish. (Soltykoff Coll.)

may be worthily followed. Let us suppose that a piece of pottery or porcelain has been painted, and that the action of the fire has made the coloring perennial, so that we find on it a portrait or a landscape everlasting as the ware itself. Let us suppose, further, that the tints are natural, that, in short, the portrait is all that we now understand by the word, and that in the landscape nature is displayed as on canvas—then we should have a specimen of the perfect union of the potter's and painter's art.

The lessening obstructions in the way of such a consummation may be referred to in brief. The colors are mineral, and change by submission to fire, different temperatures producing different tints,

even when the same pigment is used. The painter, therefore, in applying the colors, must take into account the change to be effected by the fire in endeavoring to produce a certain result. He has not merely, it will be observed, to lay on given colors, and have them made perpetual by glazing and firing. He must estimate and make allowance for the transformations effected in the process. We are now in a position to realize the difficulty attending the exercise of the combined skill of potter and painter. As a consequence, although many great painters have turned their genius to the decoration of earthen-ware, others have been deterred from doing so by the very facts here mentioned. They are unwilling to submit their work to processes unattended with certainty, and to have their artistic individuality obliterated by the fire. It is clear, therefore, that if by any means doubt can be changed to certainty, and the finish characteristic of the individual artist be preserved, artists of every grade will gladly avail themselves of the opportunity to place their works above the reach of the defacing fingers of Time. The ceramic art would be revolutionized. Artists, being at present less able to follow nature, make a virtue of necessity, and lose themselves among fantasies of tint and form. We find elaborately decorated pieces, the great virtue of the floral ornamentation of which is, that it is—not true, but—new. A new leaf or a novelty in flowers is a valuable discovery; and the *répertoire* of the potter is filled with designs in which nature has no part. If nature be brought within the artist's reach, it will be followed more closely; and the result might be the realization of Ruskin's idea—the rendition of absolute similitude in outline, color, and perspective.

The next question arising is, in view of the restraints upon artists, what styles of decoration are the best? The subject is worth considering at length. There may be a beauty of a certain kind in the ware itself. As a rule, porcelain should never be overloaded with gold or any kind of decoration or color less beautiful than its own enamel. It demands lightness of ornamentation and gracefulness of design, rather than brilliancy of decoration. We can, when these canons are observed, find something to admire in capricious floral designs, even although they may not be floral to the naturalist. The best rule is to adapt the decoration to the object upon which it is

laid. It would be a violation of good taste to demand pictures upon plates, or that a soup-tureen should resemble a sarcophagus. If an object be for use, let its usefulness be the primary consideration; if for ornament, let its beauty be its first; if it be meant to combine them, let the ornamentation be that best suited to the useful purpose.

When we come to consider color alone, a distinction must again be drawn between articles for different purposes. Ornamentation may address either the eye alone or the sensibilities through the eye. Restricting ourselves to the former, the article will be the most ornamental which, apart from shape, seems most brilliant, and reflects the most light. To illustrate this, we might reproduce an object in different materials—diamond, ruby, topaz, gold, iron, lead, sand, and plaster. Show it, in all these materials, to a savage, an ignoramus, an artist, a woman, and each will select the copy in precious stone as the most agreeable to the eye. The plaster would be the least likely to attract, and the person choosing it would be at once put down as devoid of taste. Suppose, now, that a vase is presented to us duplicated in different materials, we should find the turquoise of Japan or the red of China more pleasing to the eye than stanniferous enamel. It would, again, be like choosing between ruby and plaster. In this way a rule could be drawn up capable of universal application, one which would surmount all the advancing and receding waves of changing fashion.

In the shape which an object intended for ornament should assume, or in the style of its decoration, there is, as we have seen, no absolute rule. Individual taste is paramount, since ornaments are intended mainly to administer to the pleasure of the possessor, but one rule may be considered universal in regard to the decoration. If the object be a vase intended to brighten a house, then its ornamentation should never be of such an order that its greatest and best effect is perceived when it stands alone. What ought to be kept in view, is the extent to which it will increase the attractiveness of the room in which it stands. It is a very curious fact that the most perfect decoration demands isolation for the appreciation of its full effect, and that decoration of comparative mediocrity will frequently add more to an apartment. We are thus led to observe that decoration is not an end, but a way, a means to the beautifying of a home.

Every such object in a house should be a note, and from combination of all the notes comes harmony. Were each a tune complete, however perfect, the result would be a jarring discord. For that reason, a vase of one perfectly simple color may harmonize with its surroundings as well as, or even better than, another showing a masterpiece of painting. Such a color must, however, be as near perfection as possible, like that of a precious stone. A vase of turquoise-blue may produce in a room the effect of diamonds in the ears of a woman. Taste is not likely to lead her to carry pictures in her ears, nor to exclude all but picture-painted porcelain from her rooms.

Fig. 18.—Limoges Porcelain Plate. Painted by M. Bracquemond. (Mrs. Charles Crocker Coll.)

Having thus seen how ceramic productions illustrate the art ideas of all nations, having touched upon the influence of pottery upon art in general, and having glanced at its present aims and possible accomplishments, it will not be forgotten, after what has just been said, that the combination of the useful and the beautiful is the great charm of the ceramic art, making between them a new beauty which finds its best place in the household. Let us look at the usual appurtenances of the table. They both reflect taste and form it. A wide range is before us from which to choose — from the vulgarity of overloaded glaring colors and gilt, to the most exquisite simplicity of design and perfection of workmanship. Every house-keeper ought to visit an extensive collection, and, by comparing and contrasting one style with another, learn in what the true beauty of ceramic decoration consists. The painting and moulding of pottery and porcelain are quite as important as oil-painting and sculpture. As we look at the pictures and statues in a gallery, we read the stories they tell, feel the sentiment they express, study the grace they embody, or linger lovingly over the evidences they present of artistic skill. A plate may appear

an humble thing to which to turn from them. But let us consider the intimate relations into which we are brought with its unobtrusive beauty. It is the daily contact that lends so comparatively lowly a matter its real importance, and daily contact with delicately painted and gracefully moulded cups, platters, and dishes cannot be without its influence upon taste. Or suppose the ceramic treasure be an earthenware jar. It presents us with green, its depth suggestive of a forest glade, shading off into blue like that of the sky. As we turn it slowly round, a leaf appears attached to a tiny stem, and still farther lies a flower, colored with the very hue of nature, and suggesting the perfume of a garden in summer. Art such as that is never out of place, and never thrown away. Or let our attention rest upon more purely ornamental representatives of the art. There are vases which, while offering for our admiration a beauty which is eternal, are yet invested with a chameleon-like power of change. They never allow monotony to break their charm. It may consist of a mere color. Take the old turqnoise-blue of China. The eye can scarcely catch the fleeting shades, to determine whether the vase is blue or green. While daylight lasts, the blue is dominant, but when the lamps are lit in the evening, the blue gives place to a green of greatly increased brilliancy. The same thing may be observed in many flower-painted vases. They may be examined once without revealing a tithe of their beauty. The sky is overcast and the outside world gloomy, and the flowers, as sympathetic as though growing in the garden, look sombre and drooping. But let a ray of sunshine fall across the vase, and mark how the flowers are glorified. Their hues change and brighten, and, as if endowed with life, they smile, and lift up their heads in the face of the sun.

Fig. 19.—Limoges Porcelain Plate. Painted by Pallandre. (Thomas Scott Coll.)

BOOK I.—NOMENCLATURE AND METHODS.

CHAPTER I.

TECHNOLOGY.

Confusion in Use of Terms.—Porcelain as an Instance.—Derivation of Ceramic.—Pottery.—Faience.—Majolica.—Mezza-Majolica.—Composition of Porcelain.—Origin of Word.—Where first made.—When introduced into Europe.—Hard and Soft Paste.—Soft Porcelain of Venice, Florence, England, France.—Hard Porcelain invented at Meissen by Böttcher.—Vienna.—Discovery of Kaolin in France.—Biscuit.

It will be necessary as we proceed to make use of certain terms, the meaning of which should be defined with as much exactness as possible. It may be premised that considerable confusion exists in the nomenclature of the art. This has arisen partly from the want of precision in the language employed by writers, and partly from diversity of usage. As an illustration, the word "porcelain" may be adduced. The material to which the Egyptians applied a glaze, and which was very largely used in making ornaments and small images, has been called, and is constantly spoken of, as Egyptian porcelain (Fig. 20). In reality the substance is not porcelain, having neither the transparency nor the hardness of that ware, but a compound between porcelain and earthenware. The word was also used by the Italians in the sixteenth century, to designate their finer qualities of majolica. An equally incongruous application of it is made in the case of Lambeth faience, which is described by the manufacturers as a "kind of porcelain." Such words as faience, hard and

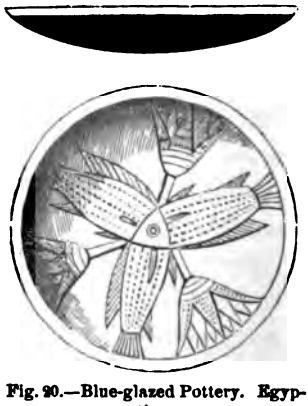


Fig. 20.—Blue-glazed Pottery. Egyptian.

soft porcelain, majolica, stone-ware, etc., are in continual use by writers upon ceramic art, and a few of the more important will now be defined.

Allusion has already been made to the derivation of the word "ceramic." Viewing the subject more prosaically, the name κεραμος was applied by the Greeks to pottery in general, and also to a large jar; and several derivatives were used for the designation of different vessels. The potter himself was called κεραμευς, and the pot-market κεραμεικος. Although the matter has been differently viewed, it appears probable that the root of all the above words is κερας, a horn. The horn was used at a very early period as a drinking-cup, and a more decided air of probability is thus given to the above assumption, since Bacchus was the reputed parent of κεραμος, or Ceramus. However philologists may ultimately settle this matter, the word "ceramic" is now employed to designate the potter's art and its productions.

The word "pottery" is variously used. Its root is the Latin *potum*, a drinking-vessel. It is applied, according to general English usage, to all wares distinguished by their opacity from translucent porcelain. The French word *poterie*, on the other hand, is applied to all vessels, including those made of porcelain. The latter fact has led to a slight confusion in the use of the English word. One writer makes the assertion in one place, that the words "earthen-ware" and "pottery" have limited and distinctive meanings, the former applying only to vessels of the coarser qualities, the latter to the finest products of the fictile art, "including even porcelain." In another place, he draws a distinction between pottery and porcelain, and in the latter course he is followed by the present writer.

Faience, fayence, or fayance, is a French word applied to every kind of glazed earthen-ware. According to the earlier French usage, the term included porcelain, but more lately it has been applied only to pottery.

The word "majolica," as now employed, has almost the same meaning as faience. A more limited signification is attached to it by some. The writer of the article on pottery in "Appleton's Cyclopædia" says it is used "to signify all faience of Italian manufacture. Lately the word has been used as almost, if not quite, synonymous with faience." A more recent writer has said, "In its now common acceptation, the word is applied to all kinds of decorated pottery made

in Italy, or made in colors and styles imitating the old Italian work. But when you read a book on pottery written during the present century by an expert, you will do well to remember that the word in that book means exclusively Italian decorated pottery of the fifteenth, sixteenth, seventeenth, and eighteenth centuries, in the old Italian styles. It does not include Italian vases made in imitation of German, French, Dutch, or English wares."

The changing meaning of this word is a good illustration of the careless use of the terms employed in treating of ceramic art. Originally, majolica, or maiolica, had a meaning different from any of those given above. The name is derived from Majorca, the largest of the Balearic Islands, between which and Italy intercourse is known to have taken place in the twelfth century; and two hundred years later, the commercial transactions of Majorca were of a very extensive kind. The evidence in favor of the above derivation of the word is conclusive. Scaliger says distinctly that the Italian pottery derived its name of majolica from Majorca, where the pottery was most excellent. Ferrari believes that "the use of majolica, as well as the name, came from Majorca, which the ancient writers called Majolica." The "Dictionary della Crusca" adds weight to these authorities. Such being the case, it seems probable that the Italians derived part of their knowledge of making majolica from the place which gives it its name. Even admitting that the Saracens who settled in Sicily, and the Moors expelled from Spain who settled in Italy, initiated the Italians in the art, nothing is thereby detracted from the importance of Majorca. The fact is left unaffected that the intercourse with the Balearic group enabled the Italians to find a name for the ware they admired so much. On trying to imitate it, the ware called "mezza-majolica" was produced. The red clay was first thinly coated with white earth, upon which the colors were laid. After a partial firing, lead glaze was applied, and lustre pigments gave the ware the iridescence characteristic of real majolica. It was after this that tin enamel was used in place of a white slip; and the lustre pigments being applied as before, fine majolica was produced. It will thus be seen that the words "mezza-majolica" and "majolica" were originally applied only to wares showing the *reflet métallique*, or lustre. This limited use of the word was observed down to the middle of the sixteenth century. Pic-

colpasso, writing in 1548, in no case applies the name to the painted and glazed wares of his own production. All the glazed earthen-ware of Italy was thereafter called majolica; and the application of the word has been growing wider ever since. Mr. Fortnum says, "We think, with M. Jacquemart, M. Darcel, Mr. J. C. Robinson, and others, that the word 'maiolica' should be again restricted to lustred wares." Any such attempt must necessarily end in failure. The popular employment of a word is not to be controlled by its scientific application. The tendency is in the opposite direction—toward the establishment of a universal usage by which faience and majolica will become convertible terms.

The different kinds of ware, such as Lucca della Robbia, Palissy, Doulton, and Limoges, will be found described under the countries to which they belong.

Porcelain is composed of two ingredients, one of which—kaolin—is infusible, and the other—petuntse—vitrifies, and envelops the kaolin. It is translucid, and therein differs from pottery, which is opaque. As to the origin of the word, we have already seen that it was, in its Italian form, applied to majolica in the sixteenth century; and the word "pourcelaine" occurs two centuries earlier. It was used to designate Oriental china in the fifteenth century. Mr. J. F. Davis, in his work on the Chinese (1840), quotes Marsden to the effect that the word "porcelain," or *porcellana*, was applied by Europeans to the ware of China, from the resemblance of its fine polished surface to that of the univalve-shell so named; while the shell itself derived its appellation from the curved or gibbous shape of its upper surface, which was thought to resemble the raised back of a *porcella*, or little hog. When porcelain was first invented in China is not exactly known. The combination was discovered in the province of Honan about eighteen hundred years ago; but the date cannot be more specifically fixed. From China it was introduced into Persia, Egypt, and Barbary, at a very early period, and was thence imported into Europe, where, however, it was not generally known until 1518. The first specimens of Oriental porcelain known to have reached England were given by Philip of Austria to Sir Thomas Trenchard, of Wolverton, in 1506.

To continue its history in Europe, it is necessary to observe that there are two kinds of porcelain—the natural, or *pate dure*, and the

artificial, or *pate tendre.* The latter cannot stand so high a temperature as the former, and can be scratched with a knife, which the hard porcelain resists. The soft-paste was the first to be discovered in Europe. Chemists, struck with the beauty of the Chinese porcelain, and impelled by a desire to imitate, began to experiment in the sixteenth century; and the first success, of which substantial evidences now exist, was gained at Florence in 1580. It is said that a Venetian potter made porcelain sixty or seventy years earlier; but no specimen known to be his is now in existence. After that of Florence, the next discovery was made by Dr. Dwight, of Fulham, England, in 1671; and in 1695 the secret was penetrated by M. Chicanneau, at St. Cloud, France. By that time the Florentine porcelain and process had been forgotten, and the English and French ceramists pursued perfectly independent investigations.

The problem of making a hard-paste porcelain resembling that of the Orient still remained unsolved. No chemistry could avail the experimenters so long as the materials were wanting. To the accidental discovery of a bed of kaolin, Europe owed its first hard porcelain. This important event took place about the year 1709, and the circumstances leading to it are full of interest.

John Frederic Böttger, or Böttcher, was a chemist's assistant in Berlin, and having fallen under suspicion as an alchemist, he took refuge in Saxony, which was then under the electorate of Augustus II. The elector, having questioned him as to his researches in the forbidden science, placed him in the laboratory of a chemist who was in search of the philosopher's stone. While working to that end, Böttcher surprised himself by producing something akin to Chinese porcelain. The course of his experiments was turned at once from the channel in which it had run. The king gave him every facility for continuing his experiments and working out his secret. He was first established at Meissen, then at Königstein, and last at Dresden. The first results were comparatively rude; then came a reddish stoneware, and afterward a dull white porcelain. How long his experiments might have been continued, or what might have been their ultimate result, cannot be estimated, had not an accidental discovery brought the object at which he was aiming suddenly within his reach. John Schnorr, a wealthy iron-founder, riding one day in the vicinity

of Aue, near Schneeberg, Saxony, noticed that his horse lifted his feet with difficulty. On examination he found that the clay was very white and peculiarly adhesive. Schnorr, although rich, would gladly be richer, and avarice made him ingenious. Why not use this white earth in the making of hair-powder? was the question which occurred to him. The commodity was dear, and clay was a cheap substitute. He took a quantity with him, made the new hair-powder, and was successful in his venture. In due course, the new powder reached Böttcher, and he, in turn, found an original use for the white earth. Inquiring into the nature of the powder, he found it was earthy, and at once tried it in his laboratory. The powder was kaolin, and hard porcelain was discovered. A manufactory was established at Meissen, of which Böttcher was director until his death, in 1719.

In 1720, the manufacture was begun at Vienna, whither the secret was carried by an escaped foreman from Böttcher's works at Meissen.

It is very curious to note that the first manufacture of hard porcelain in France was due to a chance discovery almost identical with that made in Germany. Kaolin had been found at Alençon, but the porcelain made from it was not pure in color. In 1765, the wife of a surgeon found near St. Yrieix a peculiarly soft earth of great whiteness. Being poor, Madame Darnet was also economical. Unlike Schnorr, her thoughts turned in the direction rather of keeping down household expenses than of adding to her income. The earth had a soft, oily touch, and the good lady thought that it might answer all the purposes of soap. Her husband sent a sample to a chemist, and it was soon afterward decided to be kaolin. The manufacture of hard porcelain was begun at Sèvres in 1769, the quarries of St. Yrieix supplying both the kaolin and petuntse. As illustrating the ingratitude of the world, it may be mentioned that the humble instrument by whose aid France reached its lofty eminence in the manufacture of porcelain was, for about sixty years, left unrewarded. In 1825, Madame Darnet, spending her old age in poverty, received a pension from Louis XVIII.

Biscuit is the technical term applied to both pottery and porcelain before they are enamelled or glazed. In this condition, porcelain is of a dead white, and is not very well suited to receive decoration in colors which require a glaze to bring out their full beauty.

CHAPTER II.

CLASSIFICATION.

Tabulated View.—Brongniart's Division: Its Objections.—Classification adopted.—Leading Features and Advantages.—Distinctions between Different Bodies and Different Glazes.

In order to avoid repetitions and explanations, and for the sake of lucidity, tabulated views of the different branches of ceramics are here presented. The first is least detailed, but gives the salient points of a systematic arrangement.

- Pottery
  - *Soft*
    - Unglazed ..... Common brick. Earthen-ware.
    - Lustrous ..... Greek pottery.
    - Glazed ..... Some ancient and most modern faience.
    - Enamelled ..... Robbia ware.
  - *Hard* ..... Stone-ware. Fire-brick.
- Porcelain
  - *Soft*
    - Naturally soft ..... English porcelain.
    - Artificially soft ... French porcelain, *pate tendre*, such as old Sèvres.
  - *Hard* ..... China. Dresden. Sèvres.

The following is more full, and is to be ascribed to M. Brongniart:

FIRST CLASS, SOFT-PASTE.

1*st Order.* Baked clay without glaze.
2*d Order.* Lustred wares with silico-alkaline glaze.
3*d Order.* Glazed pottery with plumbiferous glaze.
4*th Order.* Enamelled pottery, in the enamel of which tin is used.

SECOND CLASS, HARD-PASTE (OPAQUE).

5*th Order.* Fine faience, uncolored paste with plumbiferous glaze.
6*th Order.* Stone-ware without glaze, or with salt or plumbiferous glaze.

THIRD CLASS, HARD-PASTE (TRANSLUCENT).

7*th Order.* Hard porcelain, paste and glaze both felspathic.
8*th Order.* English natural soft-paste porcelain—paste, argillaceous kaolin, pegmatite, phosphate of lime, etc.; glaze, boracic.
9*th Order.* French artificial soft-paste porcelain—paste, a frit, marly alkaline; glaze, alkaline containing lead, alkali, and silica.

If these tables be studied carefully, it will be found that in arranging the nine orders, a gradual ascent is made from the humblest ware —baked clay left unglazed—to the finest of artificial compounds. Its only objection—and it is one very likely to confuse an inexperienced student of the art—is, that, under the head of hard-paste pottery, are classed the soft-paste porcelains of England and France. The question is, also, very likely to suggest itself, why the distinction should be drawn between the soft-pastes of England and France, and the one called natural, the other artificial. The reason is that the paste of England is naturally soft, while that of France is made soft by the chemical action of certain of its ingredients. The classification has, on the other hand, the advantage of being in general use. Terms are employed in its construction which have a peculiar but well understood significance; and even in its errors there is a modicum of truth. Thus, although the artificial porcelain of France is invariably called *pate tendre*, or soft porcelain, it is not improperly classed under translucent hard-pastes. The error is in the distinctive name rather than in the classification. There is, in reality, very little difference in hardness between the hard-paste and the soft-paste; and although the glaze of the latter is not so hard as the body, the appellation soft-paste has been adjudged a misnomer. The question then came to be whether it might not be better to retain the old terms, with an explanation of their technical meaning, than to supplant them with something new. The latter course has been adopted, upon the ground of obviating meaningless and misleading distinctions. Both simplicity and a clear understanding of one of the most important practical divisions of our subject point toward a revision of the old system of grouping. Pottery and porcelain differ in one essential respect, and their varieties can also be classed according to the leading features of their composition, manufacture, or appearance. These differences have been taken as the basis of the following classification, against which, at least, none of the objections to that of M. Brongniart can be brought. It has been prepared by a distinguished French artist of the present time, and is offered in the hope that it may be intelligible, although it is not claimed to be either perfectly exact or altogether complete.

All wares are divisible into two great classes, viz., transparent porcelain and opaque earthen-ware.

PORCELAIN may be natural or artificial.

I. Natural porcelain is made from kaolinic clay. It may have—
   1. A pure felspathic glaze, such as porcelain of China, Japan, Limoges, Sèvres, Dresden, Berlin; or,
   2. No glaze, such as the biscuit porcelain of China or France.

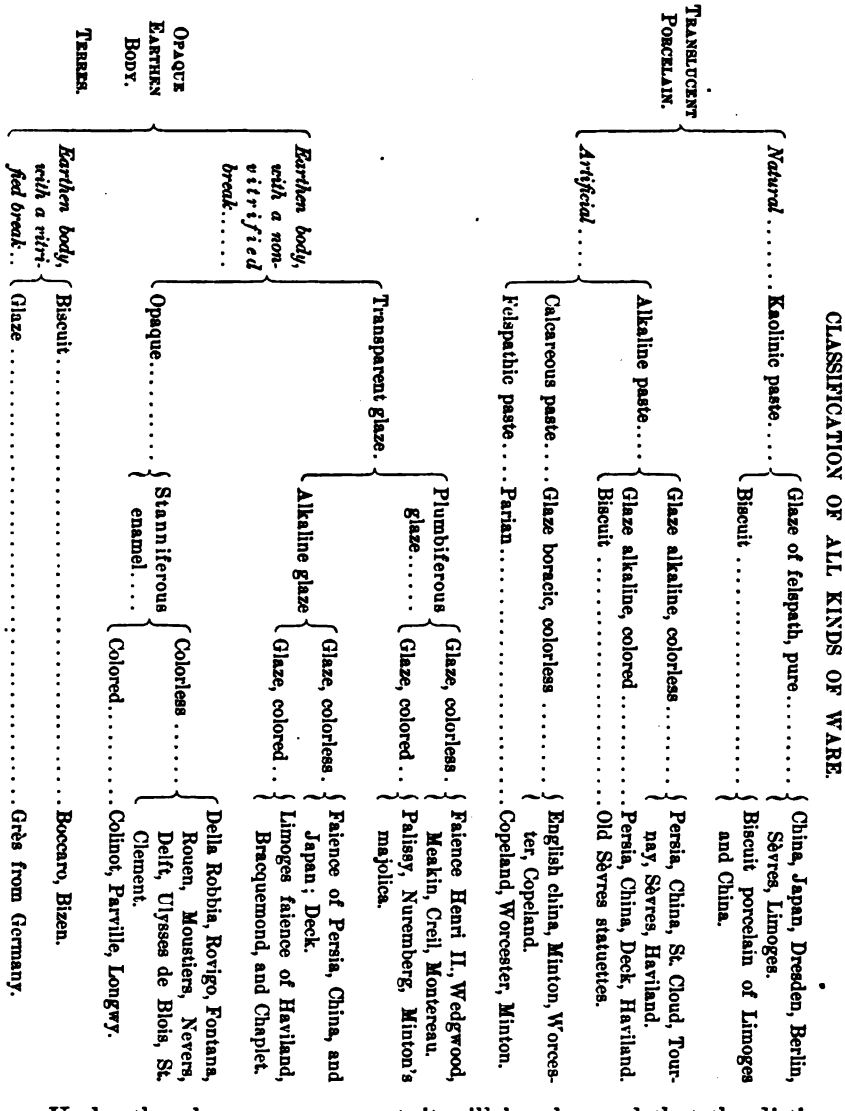
II. Artificial porcelain may be made from alkaline clay, calcareous clay, or felspathic clay.
   1. Alkaline clay may have an alkaline glaze, either colorless or colored, or may be biscuit.
      a. Alkaline glaze, colorless—Persia, China, St. Cloud, Limoges, Sèvres, Tournay.
      b. Alkaline glaze, colored—Persia, China, Limoges, Deck.
      c. Biscuit—Old Sèvres statuettes.
   2. Calcareous clay has a colorless boracic glaze, as in the case of the English china of Minton, Copeland, and Worcester.
   3. Felspathic clay is exemplified in the parian of Copeland, Minton, and Worcester.

EARTHEN-WARE is of two kinds—that showing a non-vitrified fracture, and that showing a vitrified fracture.

I. Earthen-ware with non-vitrified fracture may have either a transparent glaze or an opaque enamel.
   1. Transparent glaze may be plumbiferous or alkaline, and in either case colorless or colored.
      a. Plumbiferous.
         Glaze, colorless—Faience d'Oiron or Henri Deux ware, Wedgwood, Meakin, Creil, Montereau.
         Glaze, colored—Palissy, Nuremberg, Minton's majolica.
      b. Alkaline.
         Glaze, colorless—Persian faience, Chinese and Japanese faience; Deck, of Paris.
         Glaze, colored—Haviland or Limoges faience.
   2. Opaque enamel is stanniferous, and may be either colorless or colored.
      Stanniferous, colorless—Della Robbia, Rouen, Moustiers, Delft, Nevers.
      Stanniferous, colored—Colinot, Parville, Longwy.

II. Earthen-ware with vitrified fracture may be either glazed or in biscuit. Of the former, the *Grès* of Germany, Beauvais, and Doulton may be taken as examples.

For convenience of reference, the same classification may be given in tabulated form:



Under the above arrangement, it will be observed that the distinc-

tion between hard and soft porcelain and pottery is done away with. The first is divided into natural and artificial, the kaolinic paste being the only one coming under the former head, and the "soft-pastes" of both England and France coming under the latter. The subdivisions are made according to the glaze employed. The division of pottery into two classes, according to the nature of the body as revealed by fracture, is the most lucid and comprehensive. The subdivisions, as in the case of porcelain, are made according to the enamel or glaze applied to the ware. It is presumed that any one can distinguish between transparent and opaque wares, and thus tell porcelain from pottery, and similarly, tell whether the fracture of a broken specimen is vitrified or otherwise, and thus distinguish stone-ware, or *grès*, from ordinary earthen-ware.

In the matter of glazes, it requires a great deal of skill and long practice to tell one from another. All are transparent, with the exception of tin or stanniferous enamel. Felspathic glaze is that most readily recognized; but in the case of the others—the alkaline, plumbiferous, and boracic—they are very often only to be distinguished by their different effects upon the colors used in decoration.

slope, the water runs out and thus takes off the weight at that end, the iron-shod beam at the other descends, and falling into a stone mortar in which the raw material has been placed, in a very short time pulverizes it. The above is the only machine employed by the Japanese. After being pulverized, the paste is sifted, mixed with water, and decanted, and the water is finally drained off through matting and sand. The fine clay to be used in making porcelain is deposited on the mat.

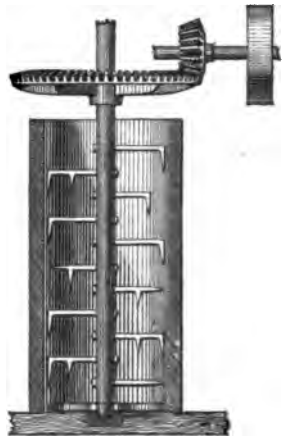


Fig. 21.—Vertical Pug-Mill, in use at Union Porcelain Works, Greenpoint.

For the old Sèvres soft porcelain, the frit was crushed, cleared of salts, and ground in water. The paste was then mixed with the other ingredients, as previously given in the table.

To prepare clay for making earthenware or stone-ware, machines are now generally used. That for the coarser kind of wares, such as bricks or common stone-ware jars, is a pug-mill (Figs. 21 and 22). The clay, having been brought by water to a certain workable consistency, is put into the mill. This is simply a cylindrical box, with blades projecting from the inside, and having in the centre a shaft also armed with blades. By the revolving of the shaft the clay is worked into a perfect pulp, and in that condition issues from a hole in the lower end of the mill. Should any hard substance have resisted the knives, it is removed by hand.

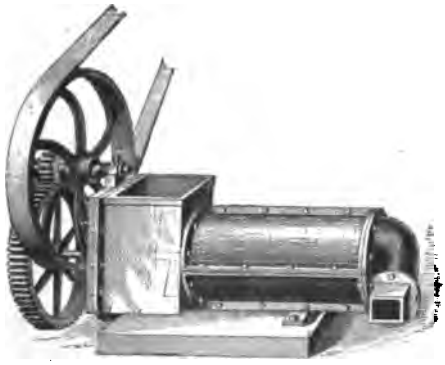


Fig. 22.—Horizontal Pug-Mill, in use at Union Porcelain Works, Greenpoint.

For the finer kinds of earthen-ware, into the composition of which pipe-clay, kaolin, quartz, and felspar enter, the ingredients are mixed in a "blunger." This machine is not unlike a steam butter churn, there being a shaft passing from end to end, in exactly the same way, and

armed with similar paddles. Water is added to the ingredients, and, as the blunger turns, these are all thoroughly mixed into a "slip," which is drawn off at the bottom. It is then strained and finally passed through a pug-mill, and is ready for use.

Piccolpasso, or the Cavaliere Cipriano Piccolpasso Durantino, who wrote in Italy, in 1548, gives very minute information regarding the processes of the potters of his time and country. The clay was either washed down by rivers or taken from pits. In the former case it was taken from the river-bed when the water was low, and was placed in holes in the ground, either after or without being dried in the sun. The object of keeping it was to allow all impurities to pass off. Where there were no rivers, a series of pits was dug in any convenient hollow, and connected by a channel. The earth was washed down by the rain into these pits, and purified by the passage from one to another. In some cases it was found necessary to place the earth on sieves exposed to the rain, through which the finer particles were washed into receivers placed below. Instead of using a pug-mill, the Italian potters put the earth upon a table, where it was beaten with an iron instrument, and thoroughly kneaded and cleaned by hand.

The next process is the formation or shaping of the vessel. This may be done either by moulding or by "throwing" upon the potter's wheel. Both of these methods are very ancient. The Egyptians used moulds in making bricks before they resorted to the use of fire for baking them. Their lamps, etc., also give evidence of having been moulded. The Greeks used modelling tools for their ornaments, and also for *pithoi*, or casks. Afterward moulding was resorted to, and by that means the potter made certain parts of the vases—the handles and feet, for example, and also the ornaments. The entire vessel was sometimes produced by moulding, such as the *rhyta*, or drinking-cups, with terminations in the form of animals' heads. Amphoræ, cups, saucers, and vases of many shapes were formed by the same process.

We must refer to Piccolpasso again for the manner in which the Italian potters moulded. Like the Greeks, they appear first to have moulded the parts, such as the handles, which were fixed to the body after it was fashioned. They then, again like the Greeks, began to imitate metal vessels, and thus were brought directly to the process of moulding upon their models, or shaped pieces ornamented in relief.

The moulds were made of plaster of Paris, and, when ready, the clay was worked into a cylindrical shape, and sliced by drawing a wire across it. The thickness of the slice was regulated and made uniform by pieces of wood placed at either side of the lump of clay. A slice was then taken and pressed into the mould, and another for the other side into the other half of the mould. Any excess appearing over the edges was cut away. The feet were similarly moulded, and subsequently fixed to the body by means of a composition of clay and fine wool cuttings. In making vases or ewers, moulds were made for both sides, and joined at the front and back. A wire was used to cut off the superfluous clay, and the two pieces were joined together with the composition above mentioned. The handle was fastened on by the same means.

Moulds are at the present day used in every branch of the art, from the lowest to the highest. Drain-pipes are made in a cylindrical mould, with a smaller and solid cylinder inside. The clay is pressed between the two concentric cylinders. In making earthenware, the clay is sometimes rolled out and spread upon a block of the desired shape. In making plates, the clay is spread over a round block, and moulded by a form pressed down from above. When plaster of Paris is used, the process is very like that described by Piccolpasso. The mould is in two parts, into each of which the clay is pressed. The two pieces are then brought together, and the seams joined. Or a plaster mould may be used, into which the paste is poured in a liquid state. The absorption of the liquid by the plaster soon gives the clay sufficient consistency to take the necessary shape. Subsequent shrinkage allows its removal from the mould. After a partial drying, the ware is dressed or "shaved." The process is a very delicate one, especially in the finer kinds of ware, in which a finely polished surface is necessary. The piece is placed on a lathe, and cut to the necessary thickness, and receives its ornamental lines, or has the mouldings applied. The handles are then attached, and, after drying, the piece is ready for the kiln.

The moulding of porcelain requires very great care, on account of the fragility of many of the pieces. In Japan, clay moulds were exclusively used until within the past three years. After being thrown or moulded, and slightly dried, the pieces are shaped by means of

sharp metal instruments in the same lathe on which the throwing is done. A coat of pure white clay is then laid on for the purpose of enhancing the beauty and heightening the effect of the color. This having been done, the piece is ready for the preliminary firing. When large pieces are made, the European method is to pour the

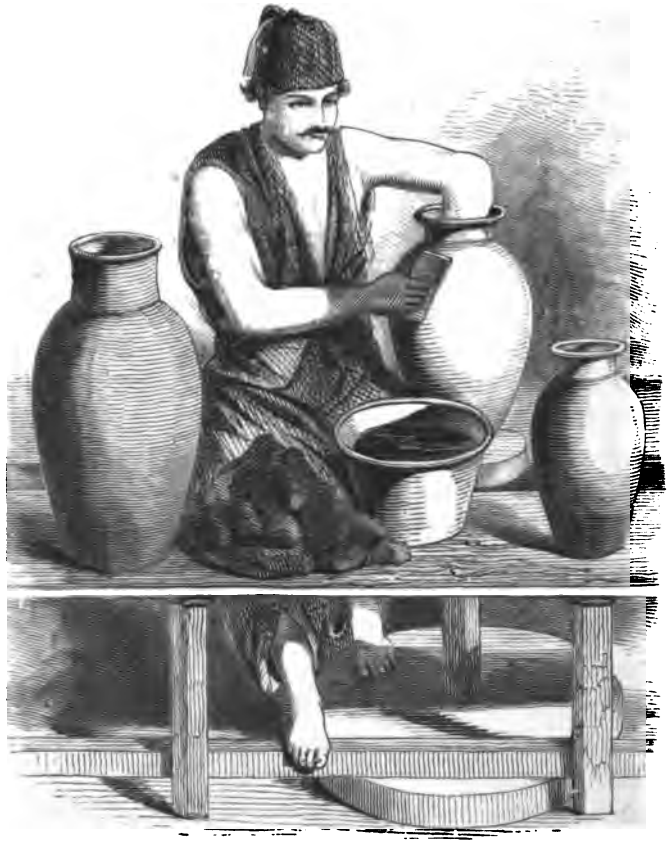


Fig. 23.—A Potter in Palestine.

necessary thickness of slip over the inside of the mould, against the side of which it is kept by means of forcing air into the interior, after covering the surface, or exhausting the air through the mould. When sufficiently dry to support its own weight, the piece is fired.

The other method of forming the wares is technically called "throwing" upon the potter's wheel, and is suitable for all circular

vessels, or those with modifications of the circular shape. The process is very simple. A piece of clay, large or small, as required, is thrown down on the revolving disk, and, as it whirls round, is formed by the potter's hand into the requisite shape. The potter's wheel is one of the oldest mechanical appliances in existence. Its invention was due to the desire of remedying the irregularities of handiwork, and as such was a valuable and in every way wonderful achievement. It brought symmetry and all the varieties of circular form within the potter's reach. Its inventor is unknown. The prehistoric vases of Greece were made upon the wheel. It was used in Egypt at least four thousand years ago. In Assyria, and among the Jews, its use is attested by the frequent reference made to it in Scripture.

It is curious to find a modern traveller, Dr. W. M. Thomson, speaking thus in "The Land and the Book" of the potter of Palestine. "I have been out on the shore again examining a native manufactory of pottery, and was delighted to find the whole Biblical apparatus complete, and in full operation. There was the potter sitting at his 'frame,' and turning the 'wheel' with his foot (Fig. 23). He had a heap of prepared clay near him, and a pan of water by his side. Taking a lump in his hand, he placed it on the top of the wheel (which revolves horizontally) and smoothed it into a low cone, like the upper end of a sugar-loaf; then, thrusting his thumb into the top of it, he opened a hole down through the centre, and this he constantly widened by pressing the edges of the revolving cone between his hands. As it enlarged and became thinner, he gave it whatever shape he pleased with the utmost ease and expedition."

The entire process of making clay vessels in Egypt has been preserved in a scene depicted in a tomb (Fig. 24). The clay was first trampled underfoot to give it evenness of consistency and make it more perfectly plastic. It was then prepared for working by being rolled out, and was then put on the wheel. The latter was either round or polygonal and flat. It was placed upon a stand, and was turned with one hand, while with the other the potter shaped the clay, and, as he worked, sat either upon a low stool or upon the ground. Both the hollowing and external shaping were done by hand. The furnaces were hollow cylinders, about six and a half feet high, in which the wares to be baked were placed about half-way up. An

aperture at the bottom admitted draught sufficient to drive the flames out of the top of the furnace. Among the Greeks the wheel was also

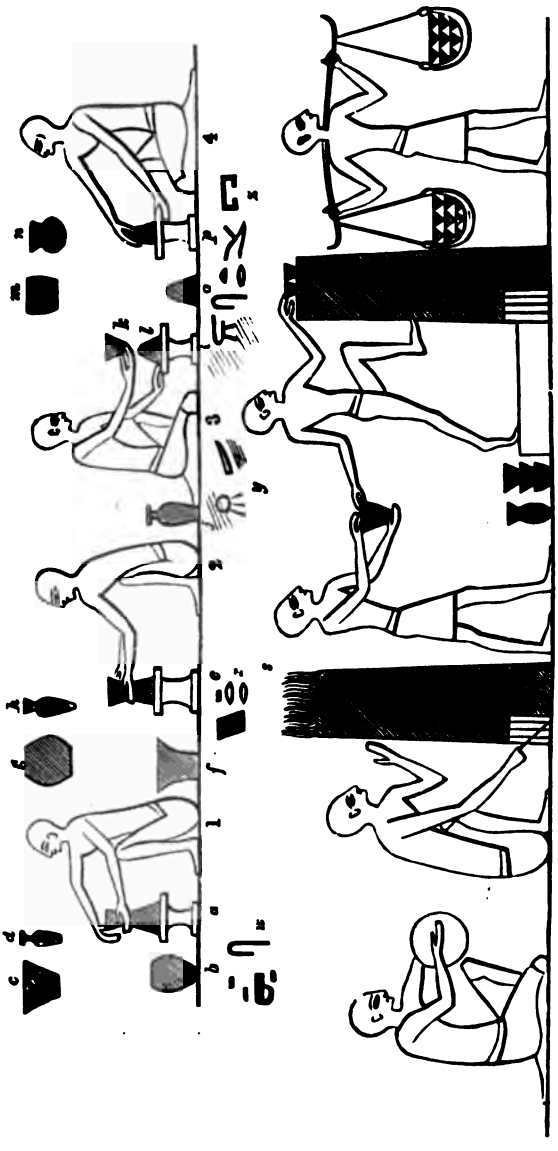


Fig. 24.—An Egyptian Pottery. (From a Tomb.) *a*, *e*, *i*, *p*, the wheels on which the clay was put. Fig. 1 forms the inside and lip of the cup as it turns on the wheel *a*. *b*, *c*, *d* are cups already made. Fig. 2 forms the outside of the cup, indenting it with the hand at the base, preparatory to its being taken off. Fig. 3 has just taken off the cup from the clay, *l*. Fig. 4 puts on a fresh piece of clay. Fig. 5 forms a round slab of clay with his two hands. Fig. 6 stirs and prepares the oven, *q*. At *s* is the fire, which rises through the long, narrow tube or chimney of the oven, upon the top of which the cups are placed to bake, as in *v*. Fig. 7 hands the cup to the baker, 8. Fig. 9 carries away the baked cups from the oven.

employed at a very early period, so early that its inventor or introducer is forgotten. One of the Grecian legends ascribes the honor to

Dædalus, an Athenian of royal descent, and inventor of the wedge, axe, and other mechanical contrivances. Another legend ascribes it to Talos, the nephew of Dædalus, whose murder compelled the latter to seek safety in flight. To whatever individual or city the credit may be due, the wheel was used by Grecian potters from time immemorial. They turned it with the foot—as did the Egyptians also at one period—and it appears that the turning was sometimes left to an assistant. The process was almost identical with that described above. The clay was placed upon the wheel and shaped by the hand, and when the vessel was of so large a size as to make it necessary, one hand supported and shaped the clay from the inside. In this way the body of the vessel was made, and before the clay dried, the feet, handles, and other parts were fixed to it. Before the wheel was known, the vessels were hollowed out and shaped by the hand, and the larger vessels were subsequently made in the same way.

It is said that the potter's wheel was invented in Japan, in the year 724, by a priest named Giyoki, and the event at once raised the potter's art into very high estimation. In Arita, the wheel consists of a fly-wheel and revolving disk, the latter placed about a foot above the former, and connected with it by a hollow wooden prismatic axle. In the centre of the working disk, and between the three sides of the prism, a hollow piece of porcelain is inserted. The whole is then placed upon a pointed stick fixed firmly in the ground, in such a way that the entire weight is supported upon the point of the upright wood. As that point comes in contact with the inserted porcelain, friction is reduced to a minimum. Vessels of any size can be thrown in this way—from the huge basin three feet in diameter to the smallest work which the potter's hand has shaped. A driving cord is employed for turning the wheel when very large pieces are being made.

The Italians of the sixteenth century used the wheel in the same way, fashioning the clay with the hands and certain tools of wood and iron (Fig. 25).

It would thus appear that the potter's wheel improved in due course of time. At first it was merely a horizontal revolving disk turned by hand; then it consisted of a three-feet shaft with the disk on the top, and a driving-wheel below to be turned by the potter's foot; later still, it was turned by means of a foot-board, like that of

a turning-lathe or printing-press; afterward the driving-wheel was separated from the disk which it turned by means of a connecting rope or band, and was worked by an assistant; more recently, steam has been brought in to the saving of labor, and in many large factories is the chief power used.

Fig. 25.—Venetian Potters of the Sixteenth Century. Showing two kinds of potter's wheels in use among them. (From engraving by V. Biringuccio.)

It is almost unnecessary to add that when throwing was resorted to in place of moulding, the subsequent operations of shaving, polishing, and attaching the handles and ornaments were performed in the same manner as that described above.

We now reach the third process, that of baking or firing. Sun-dried bricks have been found in nearly every part of the world. They were introduced into Spain by the Arabs, and in the New World have been found from Mexico to Peru. In Egypt they represent the earliest works of the potter; and from that country, Assyria, and Babylonia, relics of the rudest stage of the art of working in clay have reached our own time. The climate of Egypt was such that unbaked bricks were sufficiently lasting for architectural purposes, and walls, tombs, and entire pyramids were constructed of them. The use of sun-dried clay was restricted in Assyria to bricks and small figures of an apparently religious character. In Babylon, as in Assyria, similar bricks were used as foundations for buildings. Among the Greeks sun-dried clay was widely employed. Many of their temples and the walls of some of their fortified cities were constructed of bricks dried in the sun. Even statues and models were made of unbaked clay.

The kind of furnace in use among the Egyptians at a very early period has already been described. No remnant of those used by the Greeks has been discovered, and all the information regarding them has been derived from representations on pottery or gems. A tolerably correct idea of the more ancient ones may be conveyed by describing them as tall baker's ovens, into which the wares were pushed

and baked like loaves. There are several vases now in existence upon which furnaces of this kind are depicted. A kylix from Vulci, and now at Munich, is remarkable for the scene depicted on it. One of the epigrammata of Homer, entitled Ὁ Καμινος—"The Furnace," has been translated by Cowper. The explanatory preface is attributed to Herodotus.

"Certain potters, while they were busied in baking their ware, seeing Homer at a small distance, and having heard much said of his wisdom, called to him, and promised him a present of their commodity —and of such other things as they could afford—if he would sing to them, when he sang as follows:

"'Pay me my price, potters! and I will sing.
Attend, O Pallas! and with lifted arm
Protect thèir oven: let the cups and all
The sacred vessels blacken well, and, baked
With good success, yield them both fair renown
And profit, whether in the market sold
Or streets, and let no strife ensue between us.
But, O ye potters! if with shameless front
Ye falsify your promise, then I leave
No mischief uninvoked to avenge the wrong.
Come, Syntrips, Smaragdus, Sabactes, come,
And Asbestus; nor let your direst dread
Omodamus delay! Fire seize your house!
May neither house nor vestibule escape!
May ye lament to see confusion mar
And mingle the whole labor of your hands!
And may a sound fill all your oven, such
As of a horse grinding his provender,
While all your pots and flagons bounce within.
Come hither also daughter of the Sun,
Circe, the sorceress, and with thy drugs
Poison themselves, and all that they have made!
Come also, Chiron, with thy numerous troop
Of Centaurs, as well those who died beneath
The club of Hercules, as who escaped,
And stamp their crockery to dust! Down fall
Their chimney! Let them see it with their eyes,
And howl to see the ruin of their art,
While I rejoice: and if a potter stoop
To peep into his furnace, may the fire
Flash in his face and scorch it, that all men
Observe thenceforth equity and good faith.'"

The scene on the kylix at Munich is supposed to represent Homer among the potters. The furnace is on the extreme right, and has a

tall chimney. The fire is seen below. In front of it is a man who has apparently been placing a vase in the oven, and behind him comes another carrying what may be a large jar on his shoulder. The next figure is that of Homer, holding a staff; behind him is a vase, and a youth carrying another vessel toward the furnace. The next group shows the operation of "throwing," a boy turning the wheel while an old man shapes the vessel. On the left is a young man sitting and holding on his knees a vase to which he seems to be attaching the handle. The entire composition is interesting, since — assuming the old man with the crook to be Homer, and not the proprietor of the pottery—it illustrates a poem which shows how widely, even at the early age in which the poet lived, the various operations in making vases were understood. For our present purpose, however, attention is chiefly directed to the furnace.

The furnaces described by Piccolpasso as in use among the Italians were of three kinds, one for oxidizing the tin and lead, a second for baking glazed ware, and a third for majolica proper, or lustred ware. In the first the furnace was rectangular, and was divided into two parts, one of which was occupied by the fire, the other by the tray for the metals. The latter was raised to such a height that the flames could play upon the metals as they passed over them to the opening at the other side. The baking furnace was also rectangular, and was built of brick. It was divided by a perforated arch into an upper and lower compartment. In the upper division the wares were placed. It had four openings on either side and nine in the roof. Under the lower chamber was the ash-pit, and each chamber had a door at one end. At Castel-Durante the usual dimensions of a furnace were six feet in height and length, and five in width. At Venice their dimensions were sometimes double those above stated. The wares were arranged according to their quality. Seggars — circular or oval cases of infusible fire-clay, bottomed, but without covers, and perforated—were used for those of fine quality. The seggars, which may be seen piled one above another in Fig. 28 and on the lower right hand of Fig. 29, were placed as in the first of these engravings, the bottom of the one above acting as a lid to that next below; and the coarser wares were arranged in rows between the piles of seggars. The openings having been partially closed, the fire was applied

below, and kept up for about twelve hours, when the first firing was finished. The majolica furnace will be described hereafter.

Among the Japanese the kilns are arranged in a peculiar manner. That in which the first firing is done is a small furnace, used only previous to the painting. The oxide of cobalt, which is more extensively employed than any other, is laid upon the white clay coating, and the piece is then glazed, usually in a compound of felspath and wood-ashes. The second firing then takes place. The kilns are built in terraced rows of from four to twenty, and rise about three feet above each other, growing larger in size as they extend up the hill. The ground-plan is trapezoidal, and the walls rise vertically for a few feet, and are then rounded off into an arch. The front wall, looking toward the lower end of the row, is pierced with holes near the ground, and others are made in the back wall at about three feet above the ground; so as to open directly upon the floor of the next kiln above. The draught in this way rushes through the entire row toward the chimneys behind the largest and uppermost kiln. The fuel is thrown directly into the kiln, and not into a fireplace. It is arranged along the lower side in a narrow space divided from the rest of the kiln by fire-clay slabs set upright. The fire begins in a furnace attached to the lowest kiln. The hot air rushes through the air-holes into the next kiln, which is thus heated before its own firing begins, and so on throughout the entire range, the kilns furthest up the line having thus to stand the highest temperature. Each one has the benefit of the heat of all the lower ones. The Japanese do not make any extensive use of seggars. To keep the pieces free from dust or falling particles of the vault, the inside of each kiln is glazed before the firing begins. The pieces are placed one above another upon fire-clay stands. The small kilns for the preliminary firing are in the potter's yard, but the kilns above described belong to the community, and are rented to the manufacturers.

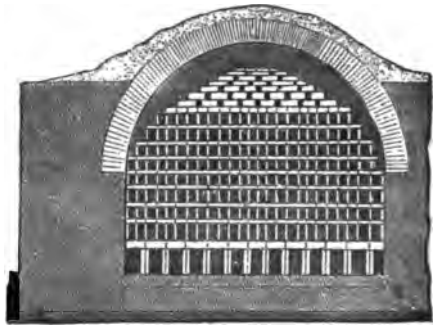


Fig. 26.—Common Pottery Kiln.

The kilns in use in America and Europe vary very much in shape. M. Brongniart gives representations of three—that for common pottery (Fig. 26), that for hard pottery (Fig. 27), and that for porcelain (Fig. 28). Those used in England often take the shape of a low, vaulted chamber, with the fire at one end, the chimney at the other, and the firing chamber between. In the United States, the usual shape for both earthenware and stone-ware is conical, not unlike a ball-cartridge. The common pottery kiln is divided, by means of baked plates, into cells, in which the wares are placed. The length of time during which they are kept in the furnace varies according to the nature of the ware. It may be twenty-four hours

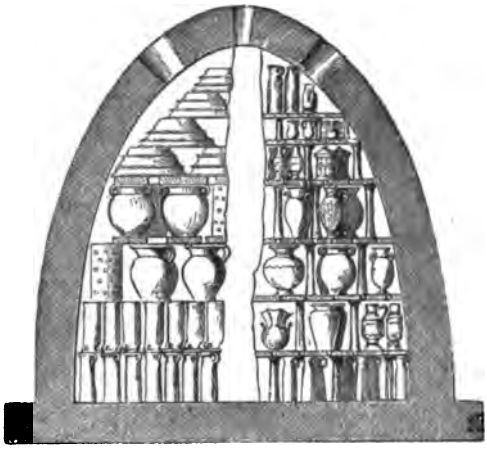


Fig. 27.—Hard Pottery Kiln.

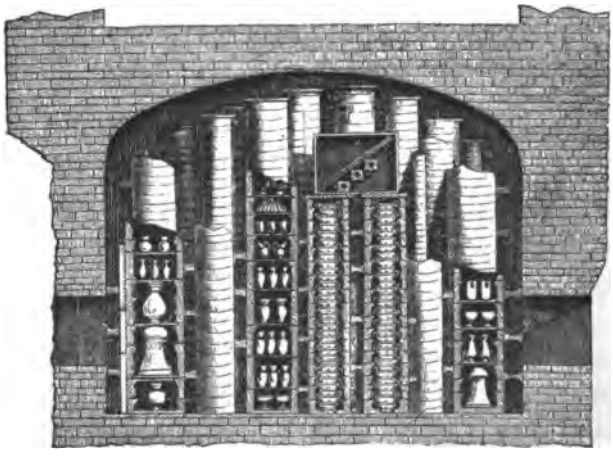


Fig. 28.—Porcelain Kiln.

or, as in the case of fine stone-ware, several days. For some wares, seggars are used in place of the open cells; and the arrangement of

the seggars may be seen in the porcelain kiln. When, in the case of non-vitrifying earthen-ware, a combination of firing and glazing in one operation is not practicable, the ware is kept at a white-heat for about thirty-six hours; and on the kiln cooling, the pieces then known as "biscuit" are removed for glazing. This operation consists of dipping it into the glaze, composed as previously mentioned, ground to a powder, and mixed with water until of the right consistency. The second firing melts the glaze, and covers the surface with a thin, transparent coating. The Italian potters gradually increased the heat for four hours, and allowed the ware to remain at a white-heat for twelve hours, and then to cool. Porcelain is fired according to its composition. For English porcelain, the first firing lasts about fifty hours; the second firing, after the glaze is applied, lasts about twenty hours or less, at a lower temperature. Soft-paste or artificial French porcelain takes from eighty to a hundred hours for the first, and thirty for the second, firing. The greatest caution is demanded in placing the pieces in the seggars and in regulating the heat. The chief peculiarity about the making of porcelain is that the glaze fluxes with the paste, and forms, with it, a translucent whole.

Fig. 29.—Broome's Improved Porcelain or Parian Kiln. A, ash-pit; G, grate; F F, flues; B B, bags for the flames; D, door for filling the kiln; E, damper, or draught regulator; S S S, spy-holes for watching, or trials while burning.

Mr. Isaac Broome, of Trenton, has invented a new kiln, of which an engraving is here given (Fig. 29). An equal distribution and perfect regulation of the heat are the features which commend it to attention.

Very little more need be said here about the preparation and ap-

plication of the glaze, and that little can be included in what requires to be added about the laying on of the colors. The Italians worked in the following manner: The biscuit having been dipped in the enamel bath, was allowed to dry, and was then painted and again dried. The piece was then dipped in the transparent glaze, and, having been for a third time dried, was ready for the final firing. Piccolpasso gives much minute instruction regarding the preparation of the colors and manner of painting, which must here be omitted. What he says about painting majolica, or lustred ware, is, however, interesting. The parts to receive the metallic-lustre pigment were sketched in outline, and left white when the other colors were applied. After the piece was fired the lustre pigments were laid on, and the piece was again placed in the kiln. For this purpose a special kiln was necessary. It was built with a square fire chamber intersected by two arches, on which was placed a circular chamber large enough to touch the four sides of the square kiln, but necessarily leaving the four corners uncovered. This chamber was perforated in all directions, in order to admit the flames to direct contact with the wares. Dry willow branches were used for the first three hours, and then dry broom was thrown on the fire, which was kept up for another hour. The kiln having cooled, the pieces were removed, soaked in soap-and-water, washed, rubbed dry with flannel, and then polished with wood-ash and flannel. The object of the process is obvious. The flames being allowed to play directly upon the wares, the carbon in the smoke decomposed the salts contained in the metallic oxide, and the metal was left glittering and iridescent upon the surface.

The Japanese porcelain painted under the glaze with the oxide of cobalt has been already described. Other qualities are painted over the glaze with colored enamels made from glass (or silica, litharge, and nitre) and white-lead. The coloring oxides are gold for carmine, copper, antimony, manganese, red oxide of iron, and oxide of cobalt. These are mixed and applied directly by the painter without any previous preparation, so that the colors do not show themselves until brought out by the fire. The method of decoration is peculiar. The design is first sketched in black lines, with strokes for the shades. When the enamel colors are opaque, they are laid on thinly; when translucent or resembling colored glass, so that the design appears

under, they are laid on more thickly. Occasionally a white opaque enamel—but containing no admixture of tin—is first applied, and the colors are laid upon it.

Stone-ware is very seldom glazed by a "dip." The usual method is to combine the firing and glazing. When the ware has been exposed to the maximum heat for the necessary time, salt is thrown into the kiln. The heat vaporizes the salt, and of its constituent parts one, the chlorine, escapes; while the other, the soda, is, on coming in contact with the silex in the red-hot ware, formed into a silicate of soda, a perfectly transparent and intensely hard glaze.

In regard to the colors, the only ones now known which will bear the first firing—*couleurs de grand feu*—and are therefore put on before glazing, are blue from cobalt, browns from iron, manganese, and chromate of iron, green from chrome, and yellows from titanium and uranium. Between these and the more delicate *couleurs de moufle*, or enamel colors, are violets, reds, and browns from manganese, copper, and iron, which are designated as *couleurs au demi grand feu.* Beyond these, the colors used in decorating hard or natural porcelain are laid on the glaze, to which they adhere without incorporating themselves.

The great difficulties attending the manufacture of porcelain may now be estimated. The piece must pass through the kiln as many times as there are colors requiring different temperatures. Too much heat will blot out the delicate colors, too little will leave them dull. Those on artificial or soft porcelain sink into the glaze, and thus present a softness and creamy delicacy never seen on any other kind of ware.

The results are generally a sufficient reward for the difficulty of the process. This is altogether exceptional in the case of *pate tendre.* As its alkaline ingredients volatilize at a certain heat, the fire must be stopped before that temperature is reached. The glaze, also alkaline, is then applied in the form of dust, and not, as with hard porcelain, in the form of a dip. The second firing melts the glaze. If the heat be too strong, the alkalies will fly off; if too weak, the surface will be uneven. For a third time the same danger is incurred, when the firing for fixing the colors takes place.

BOOK II.—THE ORIENT.

CHAPTER I.

EGYPT.

The East the Cradle of Art.—The Antiquity of Egypt: Its Claim to Notice in every Branch of Inquiry.—The Fountains of Oriental and Greek Art.—The Nile Clay.—Egypt's Early Maturity.—Limitation of Material.—Effect of Religion upon Art.—Two Periods in Art History.—Ancient Religion.—Various Symbols.—UNGLAZED POTTERY—*Sun-dried:* Bricks.—Moulds, Stamps, etc.—Vessels.—*Baked Ware:* Its Early Date.—Color of Vessels and Bricks.—Coffins.—Cones.—Figures.—Sepulchral Vases.—Amphoræ and other Vessels.—Decoration.—Græco-Egyptian Pottery.—GLAZED WARE, miscalled Porcelain: Its Nature, and how Colored.—Wall Tiles.—Inlaying of Mummy Cases.—Personal Ornaments.—Images.—Beads, etc.—Vases.—Bowls.—Glazed Schist.—Stanniferous Enamel.

To the Orient we look for the birthplace of man, and in it we also find the cradle of Art. How it spread eastward to China and westward to Egypt, we may not be able, with precise accuracy, to tell; but this we know, that in and between these two countries the ceramic art had been carried to a lofty eminence long before Europe had awakened from barbaric slumber. Western history was, in fact, scarcely beginning, when Eastern civilization was in one direction fading, and in another was tottering to its fall.

In beginning with Egypt, the most ancient relics of primitive art pass first in review. To that wonderful country, long hidden under a thick cloud of mystery, we must, in fact, first turn, no matter what may be the subject demanding investigation. It had reached antiquity before the oldest countries of the West were born. In the ceramic art, it appears as the centre from which radiated the two great branches, many centuries afterward converging in Southern Europe. On the one hand is the silicious-glazed pottery, which, after moving eastward, reached Europe in a slightly altered form; on the other

is the glazed and unglazed terra-cotta, which the Greeks took up and carried forward to a new and higher perfection. Egypt thus appears as the fountain-head of ancient art. The progress it made toward comparative perfection will be hereafter referred to. Meantime it may be pointed out, that, while fortunate in one respect, Egypt was unfortunate in another. The banks of the Nile gave a never-failing supply of pure and plastic clay, admirably suited to all the purposes of the potter. When the periodical inundations took place, they left a deposit of exceptionally pure silt extending from the banks of the river to the furthest margin of the flood. The material was thus ready to the potter's hand. The counter disadvantage was the absence of the materials required for the finest ware, or their presence in such form as scarcely to suggest their combination. The Egyptians appear to have carried their ceramic art to a full development at a very remote stage of their history, or, in other words, they soon arrived at the point beyond which they never passed. The limitation laid upon them was that of material. The result of this is shown by the other directions in which their art branched off. It seemed impossible to accomplish anything in clay to vie with the precious metals and stones. For purposes of ornament, therefore, clay was discarded. It was worked by slaves (Fig. 30), and fashioned into domestic vessels and bricks; and when the nearest approach to porcelain was made, then only do we meet with ornamental works, or those of a more strictly artistic character.

Their religion also appears to have deadened their ambition to reach a higher excellence. There were two periods in their art history. In studying the works belonging to the first, the observer will frequently be impressed by the desire evinced to follow the forms offered by nature for imitation. Such is the most striking characteristic of what may be called the first school. It aimed at the reproduction of natural forms in the most literal manner. Afterward, when the emblematic school took its rise, the forms were still those of nature, with a religious or spiritual significance superadded. The idea is evidently fatal to art, that it can climb to nothing higher than the figure symbolical of a god. In their efforts toward the production of what was graceful and beautiful, the Egyptians are not, however, to be despised. Before foreign influences made themselves felt, the

Egyptian forms were simple, and frequently displayed ideas of beauty which, if ruder than those of the Greeks, are independent. The Egyptians were necessarily original. They had no predecessors whose

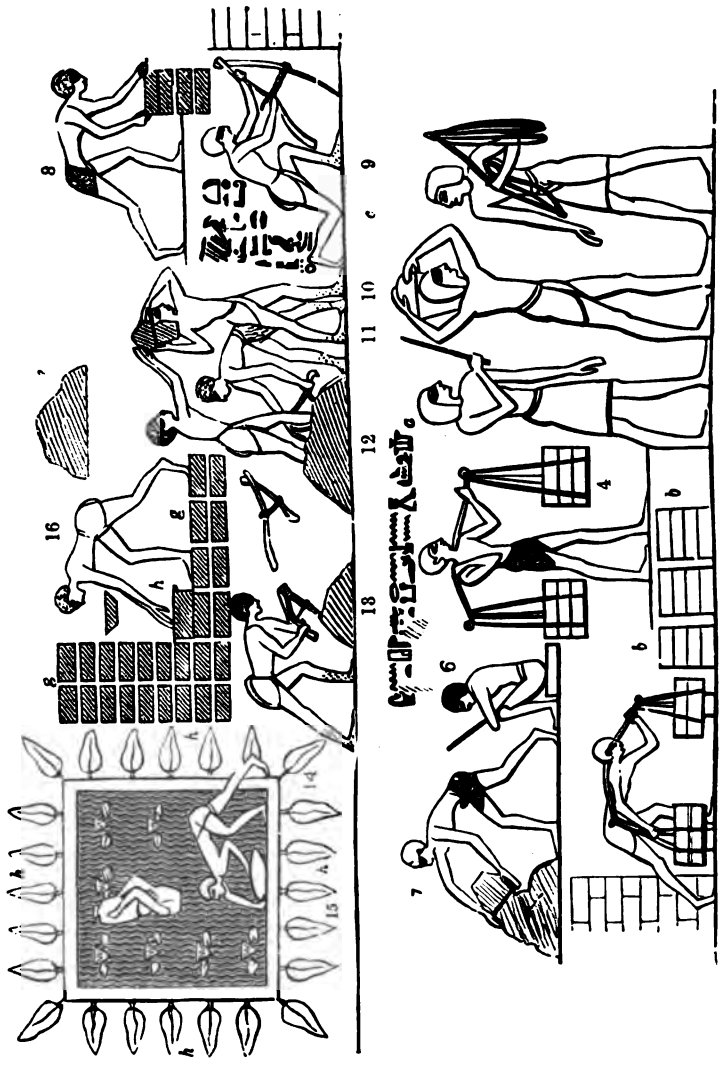


Fig. 80.—Foreign Captives making Bricks in Egypt. 1, Man returning from carrying load; 2, 7, and 10 carry the clay, after it has been dug by 9, 11, 12, and 13, and throw it down at 7 and j, for the brickmakers, 8 and 16; 4 and 5 carry them away to the drying-place or furnace; 3 and 6 are taskmasters; 14 and 15 are carrying water from the tank, h. At c and a are inscriptions to the effect that the bricks were so made for the Temple of Amun-Ra, at Thebes.

works they could copy; and in appealing to nature for models, they took the only course open to them. From their originality the Greeks borrowed and improved upon their models, and it is in this view of

its being a starting-point for subsequent art that Egyptian pottery demands careful study.

It is indispensable, in order to understand the highest forms of the art in Egypt, that something should be known of its religion. In that strange land we find an answer—possibly the first—to the question,

> "The sun, the moon, the stars, the seas, the hills, and the plains—
> Are not these, O soul, the vision of Him who reigns?"

According to Bunsen, "the mythological system proceeded from 'the concealed god,' Ammon, to the creating god. The latter appears first of all as the generative power of nature in the Phallic god Khem, who is afterward merged into Ammon-ra. Then sprung up the idea of a creative power in Kneph. He forms the limbs of Osiris (the primitive soul) in contradistinction to Ptah, who, as the strictly demiurgic principle, forms the visible world. Neith is the creative principle as nature represented under a female form. Finally her son, Ra Helios, appears as the last of the series in the character of father and nourisher of terrestrial things. It is he whom an ancient monument represents as the demiurgic principle creating the mundane egg." At the head of this Pantheon stands Ammon, the concealed and invisible. The other figures are personifications of his attributes, and appear as separate and individual gods. In order to make the theogony intelligible to the people, these gods are represented by symbols. There is thus a regular gradation from the symbol to the divine attribute, and thence to the Unknown Greatest. It is the sublimity of paganism, presenting us with one god carrying on the infinite works of the universe by means of his various attributes. The symbols were chosen from nature, and are generally expressive, if not always dignified. Firstly, as to the symbols proper, the lotus and scarabæus may be mentioned as of most frequent occurrence. The former, the sacred flower, is often met with in connection with the figures of the divinities, and symbolizes the beneficence of nature's revivifying powers, water and heat. The scarabæus (Fig. 31) is the symbol of creation, and when represented with out-spread wings, of immortality. It may appear singular that a loathsome insect should thus have been honored, but the explanation is simple. It is to be found in the habits of the insect itself. Placing its egg in a ball, it

buried the latter in the sand, where it was hatched by the rays of the sun, and the ball opening with the breaking of the egg, the young insect appeared. It was to the Egyptian a perfect symbol of creation, and hence of the creative god Phtha. When found with outstretched wings, it is an ornament of the dead, and symbolizes the apparent circuit of the sun setting at night to rise in the morning. Thus the sun of life sets in death to reappear in immortality, as the scarabæus, under the influence of its divine warmth, breaks from its egg into insect life. The sun was the symbol of Ra, the sun-god, "the father and nourisher of terrestrial things." In representing the gods, the figures selected were to a great extent arbitrary. The Egyptians honored themselves by discovering that in the humblest form of nature there was something worthy of honor. They accordingly took the plants and animals of their land and wove them into their religion, by adopting a system of natural symbols too intricate to be here given in detail. The following may, however, be found useful:

Fig. 31.—Scarabæus. Dark-blue Glazed Pottery. (Way Coll., Boston Museum of Fine Arts.

The vulture was the symbol of divine maternity, because thought to conceive spontaneously; and hence Souvan, the mother of all, is represented with a vulture's head. This single instance furnishes a key to the system. The symbol is chosen which most nearly represents the principle, and thus becomes a part of the embodied form of the deity possessing the principle as his or her peculiar attribute. The dog and jackal were emblems of Anubis, the guardian of the tombs, and the deity presiding over embalmment. The scarabæus was the emblem of the demiurgic god Phtha. The lion was also the emblem of Phtha and of the goddess Pasht. Cynocephali were emblems of Chous and Thoth.

Throughout the entire system, the birds, fishes, land animals, and plants of Egypt, the hawk, vulture, ibis, uræi snakes, the cat, pig, cow, and so on, are all used as symbols. It will be sufficient now to glance at the converse, and note the forms under which the deities are rep-

resented. Ra, the sun-god, appears with the head of a hawk; Athor, the Egyptian Venus, with horns and ears of a cow; Anubis with head of a jackal; Thoth with head of an ibis; Amun-ra, a man with solar disk on head, and plumed; Mut, the mother goddess, crowned; Chons, son of Amun-ra and Mut, with moon disk, occasionally hawk-headed; Phtha with scarabæus on head, sometimes with two heads, one of which is that of a hawk; Pasht, Bast, and Tafne are all lion-headed goddesses; Her has a lion's head; Taur appears as a hippopotamus; Osiris sits enthroned with the cap of truth, and holds a staff and scourge; Isis, like the Roman Luna or Diana, appears in two forms, sitting as a terrestrial goddess, suckling Horus or kneeling, or sitting in her celestial character, with disk and horns, nursing her son Horus.

We are now in a position to give names to the group (Fig. 32), each piece in which is of the blue or green glazed pottery to be no-

Fig. 32.—Egyptian Gods. (Way Coll., Boston Museum of Fine Arts.)

ticed hereafter. It may be said, however, that no engraving could give an idea of the exquisite finish of these pieces, especially of the two in the middle. The lower central figure is the plumed Amun.

It is turquoise-blue, and is one and three-quarter inches in height. The upper central figure is the lion-headed Pasht, surmounted by the solar disk and the asp. To the left is ibis-headed Thoth, a flat figure intended to be sewn into a mummy covering. On the right are Isis and Nepthys, with Horus between them. From the combination of symbols, the study of the mythology of the Egyptians as found illustrated on their pottery is of deep interest, and of great importance both to the ceramist and the student of the science of religion.

The ceramic productions of Egypt are divisible into two great classes, unglazed and glazed.

Unglazed Pottery. — This may again be divided into the unbaked, or sun-dried, and baked. Of these the former is unquestionably the more ancient, and Egypt is one of the three countries whose sun-dried pottery has lasted until the present time. Unbaked bricks are the oldest examples. Some of those discovered recall the bondage and wrongs of the Israelites under the "new king over Egypt which knew not Joseph." The command of Pharaoh will be remembered: "Ye shall no more give the people straw to make brick as heretofore; let them go and gather straw for themselves." The straw was used to bind them together. They were moulded generally in a rectangular shape, and were extensively used in the construction of pyramids of various ages. They vary in size in different edifices, and are marked according to their composition or destined use. In the former case, the marks were used merely to distinguish the quality; in the latter, the marks indicate either the individual's tomb in the construction of which they were to be employed, or the king in whose reign they were made for public buildings. The whole process can be studied in the engraving (Fig. 30). The stamp for bricks was not used until the fifteenth century before the Christian era.

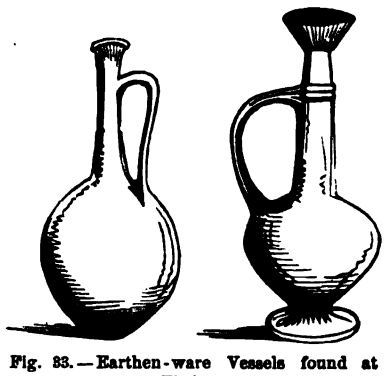


Fig. 33. — Earthen-ware Vessels found at Thebes.

The vessels of unbaked clay which have been preserved are few

in number, and are either religious in character, or devoted to sepulchral uses. The ornamentation is of the simplest kind.

Egypt was exceptionally favored by nature for advancing in the potter's art. The Nile mud was abundant and plastic, and was suitable for either moulding or throwing. Specimens of baked earthenware (Fig. 33) have accordingly been found belonging to a very remote period. They represent the second step in the manufacture, which was reached nearly three thousand years before our era. From the tombs of that period have been exhumed vessels of various kinds, such as were employed by the Egyptians in their households; and taking these as a starting-point, the art can be traced to its decline under imported ideas and foreign domination. This ware is mostly of a dull red color, verging at times toward purple or yellow, according to the temperature at which it was baked. The baked bricks were of the same red color. They were used, apparently, for purposes for which the less lasting unbaked bricks were not suitable, but were not generally employed. Of the same material coffins, although rare, have also been found. Many of the objects connected with the Egyptian customs regarding the burial of the dead were made of this clay. Among these were the cones (Fig. 34), with inscriptions in hieroglyphics stamped on the base, and giving the name of the deceased. They indicate the resting-places of many civil and ecclesiastical functionaries—clerks or scribes, priests, chamberlains, soldiers, and seldom of women. They appear to have fallen into desuetude in the sixth century before our era. Figures have also been found in the sepulchres of a later period. The vases for holding the entrails of the embalmed dead were of the same ware, and bring up for notice a very singular custom. The viscera were divided into four parts, and deposited in separate jars having the shapes of the

Fig. 34.—Red Pottery Cone. (Trumbull-Prime Coll., N. Y. Metropolitan Museum.)

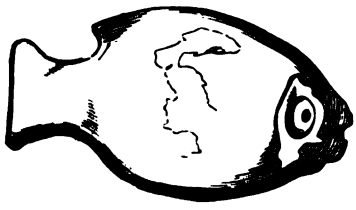


Fig. 35.—Fish-shaped Vase of Red Terra-cotta. Egyptian. (British Museum.)

genii of the Egyptian Hades, Amset, Hapi, Tuautmutf, and Kebhsnuf. The ibis mummy pots belong to the same class. They were used for holding the embalmed body of the sacred bird, and are very frequently of a conical shape, with a slightly convex lid. Of domestic vases in this ware, the shapes and uses are very numerous. Great numbers have been found in the tombs, varying as much in size as in purpose. The latter may often be divined from the shape of the vessel: thus those for liquids are wide-mouthed for convenience in drawing the contents; those for bread and flesh-meats are wider and more shallow. Ointment pots and oil jars are also fashioned in view of their respective purposes.

Another kind of unglazed ware is of a light gray color, and was common to Egypt and some of the countries of Asia. Amphoræ have been found of this material, with long bodies ornamented with horizontal grooves. Of these the larger ones appear to have been intended for liquids, and the smaller ones, some of which are very diminutive, for solids. The bases of the former are pointed, while those of the latter are occasionally rounded. The handles are both small and large, and the necks open or contracted, according to their use. These are well deserving of notice for the sake of comparison with the amphoræ of the Greeks; and for the same reason reference may be made to the vessels with three handles, which were in all probability the prototypes of the Greek *hydrai*, and to others with only one handle, which were also reproduced in Greece. The former are very frequently oval-bodied, and the position of the handle is arbitrary. The latter were jugs of various shapes, with pointed bases. The further we come down, the more distinct become the proofs of Egypt's having supplied models to the Grecian potters. It would be impossible to specify all the shapes, but reference may be made to those with handle arching the top from side to side, and of so small a size that they are thought to have been used by children as toys.

The larger vessels, which answered all the purposes of a modern meat-safe, have no handle, and have the usual pointed base for fixing them upright in the floor of the cellar. They taper gradually from the base upward, until their greatest girth is reached, when they curve more suddenly inward to a short neck. From these the forms vary through the intermediate shapes of oval jars, bottles with long necks,

and narrow oil vases, to wide bowls or dishes and plates. Reference was made in the introduction to the multitudinous purposes to which clay vessels were put by the Egyptians. They used their ware in many ways which to us appear very primitive and strange—for storing all manner of eatables and drinkables, for cooking and smelting. In fact, whatever one may think of their ideas of beauty in pottery, there can be no doubt that they took a very wide view of its infinite usefulness.

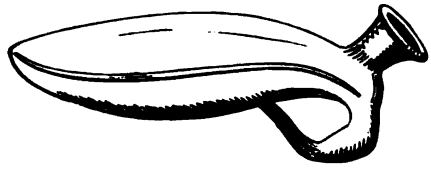


Fig. 36.—Egyptian Red-polished Terra-cotta.

Decoration of a simple kind is occasionally found on both domestic and sepulchral vessels. Colored bands were the usual ornament, and very rarely the entire body was painted with a ground color upon which bands were laid, and the whole was then varnished. It is rarely that a leaf or lotus flower is found. The use of varnish points to a step in advance. It has not yet been determined whether it is really varnish or a glaze applied by firing, but in either case it is found upon the finer and harder kinds of ware. The body color is black, brown, or red, of different shades (Fig. 36). To this class belong the single and double cruses, generally of pale red paste, but sometimes black, used apparently for holding oil or ointment. The best examples of polished ware are red. They show both ornamentation of a higher order and more artistic shapes than the others. The shape of one of these vases resembles the goddess Isis suckling Horus, in the attitude previously mentioned; another is in the form of a woman playing upon a stringed instrument (Fig. 37); a third is shaped like a fish; and many domestic vessels, cups, jugs, and vases are of the same material.

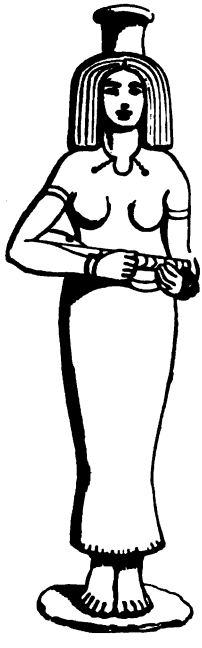


Fig. 37.—Egyptian Red-polished Terra-cotta Bottle. (British Mus.)

The Græco-Egyptian pottery forms a distinct class, differing in paste, color, and decoration. The outside shows varying shades of

gray and red, and the ornamentation consists of lines and animal and floral forms, in colors capable of standing the kiln. At the same period was introduced the custom of making writing tablets of this ware.

Fig. 38. — Glazed Pottery Vase. Egyptian.

Glazed Ware. — Leaving the unglazed and polished wares, there yet falls to be considered that with an undoubted glaze, to which belong the most artistic works of the Egyptian potters. This is the ware which has been miscalled porcelain (Fig. 38); and as the unglazed ware was never employed for purely ornamental purposes, so we find the glazed seldom used for domestic vessels. Contrary to what might be expected, specimens have been found as old as the Sixth Dynasty, or nearly two thousand years before the Christian era. The ware is not at all close in texture, and the silicious glaze was colored by metallic oxides, of the properties of which the Egyptians had an intimate knowledge. Chief among the colors thus produced are the blue and green, exemplified in some of the finest relics of Egyptian art. Their beauty is occasionally very remarkable, and led to their being highly valued both by the Egyptians and others, and to the ware itself being applied to special purposes of ornamentation. It is found, for example, in the form of tiles as a wall decoration, and as a material for inlaying. Tiles with figures in relief, having parts such as the hair, beard, eyes, or extremities inlaid with glazed ware, are among the most curious specimens discovered. Detached beards are not unlike spirally ribbed hose. Coffins, or mummy cases, are similarly inlaid. The forms the glazed pottery assumes, when employed for this purpose and for figures to be attached to other substances, are very numerous. The moulded ornaments and amulets of both the living and the dead were most frequently of the same material. These take the shape of finger and ear rings (Fig. 39), small images of the gods and of their symbols, and various other ornaments, such as bracelets, necklaces, and

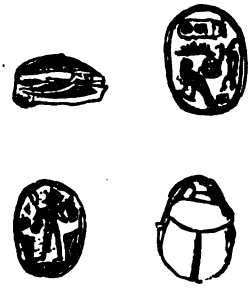


Fig. 39.—Egyptian Scarabæi used as Signets. Average, ¾ inch in length. Pale and dark green. (Way Coll., Boston Museum of Fine Arts.)

hairpins. The nature of the paste leads to the belief that these were more generally devoted to sepulchral purposes, with a religious significance, than to any other. All the minute beads, in a net-work of which the dead were often encased, and also the pectoral or breast-plates, were of this material (Fig. 40). In the lower specimen, Ra is represented by the scarab. In the barge, on either side, are Isis and Nepthys. This tablet bears the inscription, "He that is worthy goes over in the barge of Ra." Of the upper specimen only one-half is preserved, showing the figure of Isis. In the hollow centre has been a scarab, probably of jasper, and in the borders colored stones or glass have been set. The lower border consists of a series of lotus flowers, and the wavy lines represent the water in which they grow. Above was the winged disk of the sun. Figures of the gods and goddesses and their emblems, and sacred animals and plants, which were deposited with the dead, afford some of the most exquisite examples of Egyptian glazed pottery. The images have either a perforated upright support behind, or are otherwise perforated for attachment to the necklaces of the mummies. The scarabæus is very often met with on the breastplates. All these symbols and images were employed for the supposed benefit of the dead, either to save them from evil, or as a direct means of bringing good, and can only be understood through an acquaintance with mythology. Rings of various colors appear properly to belong to the same category of ornaments of the dead. Other sepulchral figures were deposited with the deceased, besides those of the protecting gods. These were supposed to aid the departed in his labors in the future state, and are invariably small representations of a mummied figure, partially covered with hieroglyphics. Like many of the other figures and objects, they are generally of the beautiful Egyptian blue. In the example (Fig. 41) given on the following page, the figure of a bird, with human head, appears upon the breast. It is

Fig. 40.—Egyptian Pectoral Tablets. (Way Coll., Boston Museum of Fine Arts.)

an emblem of the soul leaving or returning to the body. The more usual form is that seen in the central figure in the engraving (Fig. 42), with long beard, a pickaxe and hoe in either hand, and having a cord in the right hand which is crossed to the left, and allows the cord to pass over the left shoulder. At the end of this cord is a bag or basket, which is faintly discernible on the shoulder of the figure on the right. The hieroglyphics are passages from the Ritual, in compliance with which these figures were made. Balls, draughtsmen, and toys were also made of glazed pottery. All the figures and ornaments to which reference has been made were turned out of moulds, the friability of the paste not permitting its being thrown.

Fig. 41. — Egyptian Mummy Figure. Style, XIXth Dynasty. (Way Coll., Boston Museum of Fine Arts.)

For the same reason the glazed vases are diminutive, but often very beautiful, and intended for purely ornamental purposes. They are of different shapes and sizes, generally a few inches in height, and some of them illustrate the peculiar ideas entertained by the Egyptians of personal beauty. One of their customs was that of darkening the eyes with a black powder, sometimes held in a small case resembling a series of reeds. The toilet is otherwise represented by a variety of boxes, jars, bottles, small vases, and oil flasks. The latter are unique, and sometimes elegant in shape, and supply good examples of the greenish glazed-ware to which reference has been made.

Many of the bowls evidently used by the wealthy are of a finer and closer paste, and bear very characteristic ornamentation of flowers, fish, hieroglyphics, or of lines only. Their uses can only be conjectured from their shapes. The inscriptions sometimes point to their owners, and at others to the place of fabrication.

The Egyptians also resorted to a process of glazing vases, figures, rings, and other articles for which pottery was usually employed,

made of a variety of hard schists. These, however, as not being properly potter's ware, are here passed over.

It will thus be seen that the Egyptians did not carry the art to a very high point. They were, however, successful in creating a foreign demand for the productions of their potteries. From discoveries made in Eastern Greece, Nineveh, and elsewhere, it would appear that the fine pottery ornaments of Egypt were in considerable repute in neighboring countries; and, as we shall hereafter see, Egypt contributed its full share to the furtherance of the art by supplying suggestions and models.

One important matter remains to be disposed of. It has long been a subject of doubt whether or not Egypt possessed the secret of stanniferous enamel. It has been already intimated that the discovery of the use of tin for a pottery enamel is due to either that country or Assyria. The honor may probably be ascribed to Egypt. In the loan collection of the Metropolitan Museum of New York is a fragment (Fig. 43) of a vase exhibited in the Egyptian section, and referable to a very remote antiquity, covered with what is apparently tin enamel, bearing purple decorations. Should this be the case, then this solitary fragment will settle the matter, and we must believe that the Egyptians possessed this secret of the art four thousand years ago. In that event, the Assyrians probably acquired it from Egypt. The fact supplies us with the means of arriving at a very clear idea of the grand antiquity of that civilization under which a valuable art was practised, to which Europe was a stranger for more than three thousand five hundred years afterward.

Fig. 42.—Egyptian Mummy Figures. Blue or Greenish-blue Enamelled Pottery. (Way Coll., Boston Museum of Fine Arts.)

It is, as we have seen, long since the art purely its own reached its culmination. The Egypt of the nineteenth century in this respect scarcely suggests that of the Pyramids. If we were to take that country as it appeared at the Philadelphia Exhibition, we would hardly be prepared to look upon its ceramic products as those of a country in which the art has been practised for four thousand years. A few pieces exhibited were of light, slate-colored body, unglazed, and so brittle that dozens were broken in transit. The ornamentation was laid on the bare surface, and was, as a rule, bright to the verge of gaudiness. The greater portion of the painting was the work of an Italian artist resident in Cairo. Some of the red terra-cotta was more satisfactory; but all that can be said in favor of either kind is that it was, in its way, characteristically Egyptian. One specimen of pale green "porcelain" was sent by the Museum at Cairo. The last is mentioned because it represented the farthest point which the Egyptians reached on the way toward a true porcelain.

Fig. 48.—Fragment with White Enamel. (Trumbull-Prime Coll., N. Y. Metrop. Museum.)

CHAPTER II.

ASSYRIA AND BABYLONIA.

Possible Priority to Egyptian Pottery.—Similarity between Assyrian and Egyptian.—The Course followed by both Arts.—Unbaked Bricks.—Baked Bricks.—Writing Tablets.—Seals.—Vases.—Terra-cottas.—Porcelain.—Glazing and Enamelling.—Tin.—Colored Enamels.—Babylonian Bricks.—Glazes.

ALTHOUGH we have taken Egypt as our starting-point, there may have been a pottery antecedent to that we have considered. Looking farther east for the cradle of the human race, knowledge and art may have spread east and west from the Euphrates, the great river of Babylon. Egypt having been first inhabited by settlers wandering from the province of which that city became the capital, who found in the

Fig. 44.—Pottery found in the Tombs above the Palaces of Nimroud.

Nile a river resembling, in many respects, that which they had left, these colonists may have carried with them some knowledge of the uses of clay. However this may be, it is beyond question that the oldest pottery of which the age is known is Egyptian, and that the knowledge acquired from the East was returned with interest.

Fig. 45.—Terra-cotta Assyrian Venus.

Assyria and Babylonia are almost necessarily considered in conjunction. The latter having been a province of Assyria prior to its assertion of independence, we anticipate, what is actually the case, a close similarity between the ceramic productions of the two countries. In tracing the history of their pottery, we not only discover many points of resemblance between it and that of Egypt, but advance along an exactly parallel line. From sun-dried bricks we pass to burnt bricks, thence to unglazed pottery possessed of an artistic character, thence again to glazed specimens and enamel. In both countries unbaked bricks were made use of in the construction of mound-like foundations for buildings. Walls, houses, and tombs were built of similar materials. In Assyria, bricks were sometimes faced with marble, either externally, for the sake of strength, or to give greater beauty to an interior. Some were gilded and others colored. Small figures of both baked and unbaked clay, and of a religious character, were also made by the Assyrians (Fig. 45). From the stamped and baked bricks much has been learned of Assyrian history and topography, the sites of cities and names of

Fig. 46.—Assyrian Cylinder, inscribed with the Records of a King's Reign. (British Museum.)

Fig. 47.—Inscribed Seal. (Assyrian.)

Fig. 48.—Seal of Sabaco and Sennacherib.

kings having been thus discovered or substantiated. By the same people writing tablets of rectangular, cylindrical, or prismatic shapes

Fig. 49.—Impression of Sabaco's Seal, enlarged.

Fig. 50.—Back of Assyrian Seal, showing Marks of Fingers.

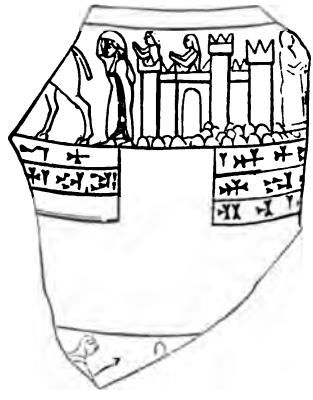


Fig. 51.—Fragment in Porcelain (?). (Nimroud.)

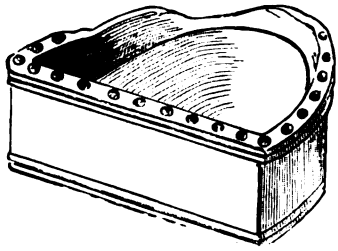


Fig. 52.—Box in Porcelain (?). (Nimroud.)

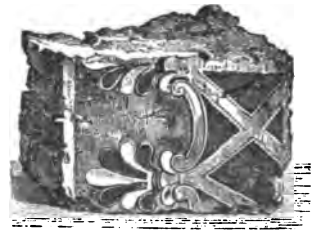


Fig. 53.—Enamelled Brick. (Louvre.)

were very commonly made of terra-cotta (Fig. 46). They form a very curious remnant of ancient literature, which, thanks to the indestructibility of the material upon which it was written, is still open to the

study of the historian. All kinds of records have thus been preserved —religious, legal, and astronomical. The Assyrians and Egyptians both used seals (Figs. 47, 48, 49, and 50) of baked and unbaked clay, in the same way that wax seals are still occasionally appended or attached to documents.

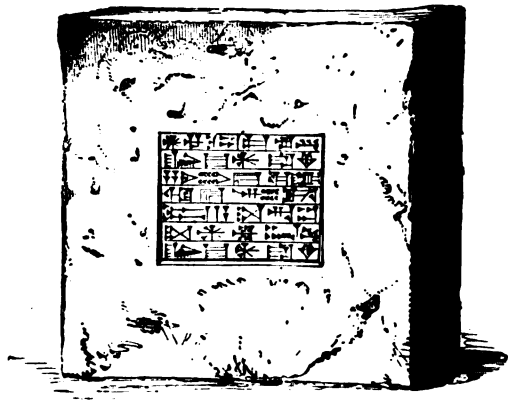


Fig. 54. — Babylonian Baked Brick, with Nebuchadnezzar's Name. Twelve inches square, three inches thick.

Many of the vases discovered in the ruined cities of Assyria are clearly to be attributed to foreign occupants, and are therefore of comparatively late date. To this class belong many of the cinerary urns exhumed from the tombs. Ancient and really Assyrian vessels have been discovered of a pale brown clay (Fig. 44), unglazed, and of various shapes, but seldom painted. It is, however, difficult, in many cases, to discover the nationality of the potter or the age of the piece. Of terra-cotta figures of the gods, several have been found, although these must have existed in far greater numbers. Porcelain, or fine glazed pottery (Figs. 51, 52), is rarely met with, and the specimens found are inferior to the Egyptian. The several uses of the ware appear to have been the same in the two countries. For a knowledge of glazing and enamelling, the Assyrians were in all

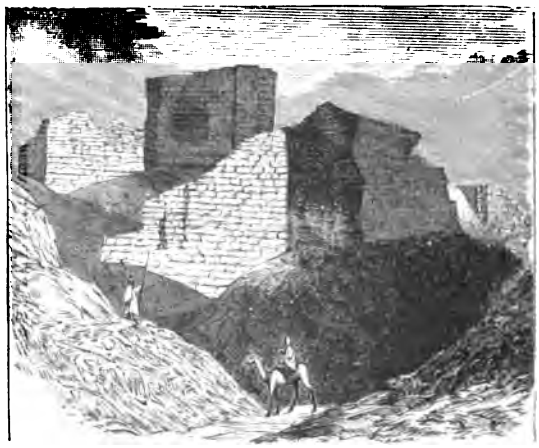


Fig. 55.—The Mujellibé, or Kasr. Showing brickwork.

likelihood indebted to the Egyptians. Bricks subjected to these processes, and ornamented with flowers, leaves, and animals, were employed in decorating interiors and even in building walls (Fig. 53). These bricks reveal the fact that the Assyrians were aware of the peculiar suitableness of tin for making a white enamel. The other enamels employed were yellow, brown, blue, and green, and were produced from metals almost identical with those employed by the Egyptians.

Fig. 56.—Terra-cotta Tablet, from Babylon. (British Museum.)

Like the Assyrian and Egyptian, the Babylonian bricks, whether unbaked or baked, were moulded, and the latter were stamped. Hundreds of these (Fig. 54) bear the stamp of Nebuchadnezzar, the sites where they were found indicating with tolerable exactness the bounds of his kingdom. The extensive use of bricks by the Babylonians may be taken as characteristic of a people inhabiting the country where the Tower of Babel was built (Fig. 55). In many respects the vessels found in Babylonia resemble those of Assyria, so closely, in fact, that they need not here be separately treated. As in the latter country,

the Babylonians used terra-cotta writing tablets. Several terra-cotta bas-reliefs have been discovered, of one of the more remarkable examples of which, now in the British Museum, we give the preceding engraving (Fig. 56). This tablet was found near Babylon. The dog is of the huge Thibet breed, and both figures have been modelled. The small size of the pieces would almost preclude their use as ornaments; and Dr. Birch ventures the conjecture that they may have been an artist's studies for larger works. The fine paste is the same as that used for the writing cylinders.

Fig. 57.—Ram in Baked Clay, from Niffer.

In regard to the earthen-ware vessels and figures, the same difficulty in determining their age is encountered here, that was met with in Assyria. They have been taken from the mounds in large quantities. To this class belongs the ram (Fig. 57) found at Niffer, on the supposed site of ancient Babylon.

The Babylonian glazes resemble the Assyrian, and it may be particularly mentioned that the oxide of tin was employed in making enamel. These glazes are found upon both bricks and vases, and were applied extensively to architectural decoration. At Warka, identified

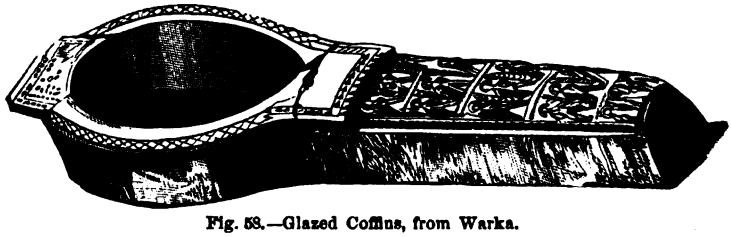


Fig. 58.—Glazed Coffins, from Warka.

with the ancient Ur of the Chaldees, thousands of coffins made of glazed ware have been exhumed, variously decorated with figures. Of these one specimen is given (Fig. 58).

CHAPTER III.

JUDÆA.

Art Derived from Egypt.—Never Reached any Eminence.—Preference for Metals.—Frequent Allusions in Scripture.—Bought Earthen-ware from Phœnicia and Egypt.—Home Manufacture.—Decoration.—Necessity for Distinguishing between Home and Foreign Wares.

We now turn westward to Judæa, in order that, before penetrating farther into Asia and to the extreme East, we may glance at a country showing in its ceramic remains unmistakable signs of Egyptian

Fig. 59.—Earthen-ware Jars and Water-pots.

teaching, but exercising in its turn no recognizable influence upon the art which from all sides of it was diffused over Southern Europe. The art never reached any eminence among the Jews. They preferred the richer beauty of the precious metals. Potters did, no doubt, exist among them in considerable numbers, and were acquainted with the different processes of throwing, firing, and glazing; but the formation of such a guild as that of which Scripture speaks is not of itself a proof that the occupation was held in high esteem. The few relics

which can be ascribed to a purely Jewish origin might be passed over as immaterial to observers of the progress of the art, were it not that everything pertaining to the land once called that of Promise, and now designated by all Christendom as Holy, possesses an interest altogether independent of its artistic merit.

For such earthen-ware vessels as they required, the Jews appear to have applied on the one hand to the Phœnicians, and on the other to the Egyptians. The manufacture among themselves was restricted to domestic articles. These resemble the Egyptian in both style and finish, the body being of a somewhat coarse paste, and the glaze of that peculiar kind which is hardly distinguishable from varnish or mechanical polish. A fragment now in the Louvre, of blue-glazed earthen-ware, resembling the finer ware of Egypt, and found in Judæa, further substantiates the close similarity between the pottery of the Jordan and that of the Nile. In ornamentation, however, the Israelites have some claim to originality and independence. Associating the lotus, papyrus, and the symbols of Egypt with idolatry, the Jewish potters substituted grapes, leaves, and pomegranates. In the description of the building of the Temple, in the First Book of Kings, the decoration within the oracle of "carved figures of cherubim and palm-trees and open flowers," was repeated on the walls and doors; and on the chapiters of the pillars made by Hiram of Tyre were long rows of pomegranates. A similar style of ornamentation was adopted by the potters.

Fig. 60.—Terra-cotta Lamps and Oil Vessels.

We have already seen that both Egyptian and Phœnician wares were imported into the country, and in addition to these there have been found at Jerusalem and elsewhere several examples of the red Roman, or Samian ware.

CHAPTER IV.

INDIA AND CENTRAL ASIA.

Mystery Surrounding People.—History of its Art in great measure Unknown.—Questions of its Existence and Originality.—How they Arose.—The Brahmins.—Geographical Position.—Views of Early Travellers.—Later Investigations.—More Ancient Pottery.—Clay Used.—Knowledge of Glazing: Its Application to Architecture.—Glazed Bricks.—Terra-cotta.—Chronological Arrangement.—Porcelain: Its Decoration.—Use of Gold.—Siam.

The antiquity claimed for the Hindoos as a people cannot, unfortunately, be elucidated either by the help of such chronicles as the granite records of Egypt, the terra-cotta tablets of Babylon, or the writings of China. The history of Indian art has been surrounded by a more or less impenetrable mystery. Two questions accordingly arise as to its ceramic productions: firstly, Did India possess any knowledge of the plastic art? secondly—that question having been answered in the affirmative—Was it original or borrowed? These doubts, in all probability, arose from the success of the Brahminical endeavors to invest every branch of Hindoo knowledge with a veil of secrecy, and from the geographical position of Hindostan. Occupying a peninsula about half-way on the route by sea between Eastern and Western Asia, Africa, and Europe, it became the recognized mart for the exchange of mercantile commodities. European traders found in it a convenient halting-place, even before they fully realized its actual commercial importance. Similarly, on the north, it intercepted a portion of the overland traffic, and ultimately became the centre toward which gravitated the productions of Persia and Arabia on the west, and of China and Japan on the east.

Travellers who did not stop to examine things very closely, accordingly declared India a stranger to ceramic art. Recognizing its importance as an exchange, from the abundance of imports from abroad, they did not pierce the commercial conditions which hid its productiveness and originality. Later researches have shown not only that

India was not dependent upon other countries, but that it had developed an exceptional skill in the application of porcelain to the embellishment of architecture. As if completely to subvert the statements of the first visitors to Hindostan, China, the great seat of the porcelain manufacture, has acknowledged its indebtedness to that country, and the extent to which it has imitated its styles. There is no reason for supposing that a country which had early shown a wonderful capacity for reaching the highest forms of architectural magnificence, and for executing work of the nicest delicacy in the precious metals and gems, lent to China alone its ideas of ceramic beauty. The absence of thorough investigation on the one hand, and the presence of a tendency to take refuge in secrecy in regard to both methods and results, rather than to court observation on the other, may, however, have had their effect in lessening the influence India might otherwise have exercised on the art. That she borrowed and adapted styles originating in both Persia and Japan, after her marts had been flooded with imports from these countries, there is every reason for believing, even when she preserved styles sufficiently distinctive to enable us to distinguish the foreign from the native work.

Of the more ancient forms of pottery, specimens exist which are upward of two thousand years old. The clay varies from red to a gray color, and the ornamentation, when used, is simple and chaste. A funeral urn of this class has a round body without decoration, short, thick neck, projecting lip, and is accompanied by a lid. Another, of the same red clay, instead of the rounded base of the former, has a wide, flat bottom. A band is drawn round the widest part of the body, from which it curves rapidly inward to the neck, and on this upper part, between the greatest circumference and the neck, a simple ornament is laid. Although rather clumsy in appearance, this urn does not lack a certain primitive symmetry.

Like the other ancient nations of which we have already treated, India was intimately acquainted with the processes of enamelling and glazing, and, better than that, brought a cultivated taste to bear upon their employment in both architecture and the decoration of pottery. Glazed bricks, of many colors, were used with great effect in the building of temples and other edifices. They are of much harder and finer material than the bricks of either Egypt or Babylonia. The applica-

tion of colors and glaze to terra-cotta was productive of the most astonishing and beautiful effects. The specimens preserved of a monumental character substantiate the right of the Indian potters to a very high rank. Not only is the coloring of their terra-cotta friezes brilliant, but the floral and animal forms, introduced either for their symbolical significance or by way of ornament, are masterpieces of art.

Arranging these products chronologically, the wares belonging to the second or third century before our era will take precedence. The buildings in which glazed bricks were used bring us down to from five hundred to upward of a thousand years later. After them come the specimens of glazed terra-cotta. Subsequently a kind of faience was made which has been very generally ascribed to Persia, but which may, from the internal evidence supplied by a comparison with purely Indian work, be safely attributed to India. Lastly, there is the faience of the present time, so intimately allied with the more ancient in both ornamentation and the prevailing shapes, as to be confidently pronounced its legitimate successor. Flowers and ornaments, incised or in relief, and grounds of blue, green, or yellow, are designed and mingled in the most artistic and effective manner.

The porcelain of India has been ascribed, on the one hand, to Persia, and, on the other, to China or Japan, while a closer examination would have revealed the fact that, though having many qualities in common with them, it is yet radically distinct. It seems probable that in several processes which the Indian artist borrowed, he followed Japan, without allowing himself slavishly to copy. The art of India as represented in porcelain manifests itself in a high technical skill, in the most exquisite delicacy, and in a close attention to all the *minutiæ* of detail. Indian figure-painting owes to these three qualities its superiority alike over those of Persia and of the extreme East. In the beauty consisting of delicacy and careful precision of finish, neither country makes even an approach to an equality with it. This truth is one, however, which can only be fully understood by actual comparison. A similarly painstaking care and conscientious literalness of interpretation characterize the floral ornamentation of Indian porcelain. Even when we find traces of Eastern inspiration in the Hindoo deep-blue or green, the Indian artist asserts his superiority in working out details. In many cases we detect more refined perception combined with a

greater technical skill. A deep bowl has floral decoration in green, blue, and red, on a white ground, the flowers being alternately red and blue. Another has a ground of pale green, divided into sections by arches of gold, immediately under the outward curving lip. Upon this are laid larger sections of a rich red color, and filled with flowers. The contrasts are strong, and the effect is magnificent. In one respect the Indian artists are particularly skilful, and that is in the use of gold. It is employed generally with reserve, and always with rich effect.

A specimen of Indian porcelain (Fig. 61), of exceptional interest to Americans, as having once belonged to George Washington, formed

Fig. 61.—Washington's "Indian" Porcelain Vases. Deep blue and gold.

part of the collection at Arlington House. It consists of a set of three vases, presented to Washington by Mr. Samuel Vaughan, of London. Their value, for our present purpose, is somewhat lessened by the fact that, though made in India, the vases were painted in London.

In Siam, a style common to that country with India is prevalent, and is the result of imitating *cloisonné* enamel in porcelain. The practice has had one result in both countries. It has led to a comparison of the native porcelain with native work in metal, and the originality of the decoration of the former has thus been substantiated and its source explained.

Fig. 62.—Group of Chinese Porcelain. (From the Avery Coll.)

CHAPTER V.

CHINA.

Art Different from that of Europe or America.—How it must be Viewed.—Religion.—Legend.—Hoang-ti the Inventor of Pottery.—The Leading Points of Religious System.—Personified Principles.—Lao-tsen, Confucius, and Buddha.—Kuan-in.—Pousa or Pou-tai.—Dragons.—Dog of Fo.—Ky-lin.—Sacred Horse.—Fong-hoang.—Symbols.—Meaning of Colors and Shapes.

As we approach China, we must prepare ourselves for the consideration of its ceramic products, by once and for all giving up the attempt to judge them by European or American standards. Whether or not art may have travelled to China eastward from the cradle of the human race, it certainly crystallized in China into distinctive

forms. This fact must be constantly kept in mind, if we would succeed in appreciating at its true value the art of the Celestial Empire. As in criticising a book, it is less essential to measure the difference between one's own ideas and those of the author, than to look at the subject from the author's stand-point, and to examine the result from the inside, so, in estimating art, it is equally essential to enter into the artist's views, and to study not only the ideal he means to portray or the real he tries to imitate, but also what he considers essential to imitation and portrayal, and the intelligence to which he addresses himself.

We have seen that the Egyptians honored the gods through their works. The Chinese present us with a religion based, like that of the Greeks, Scandinavians, and many other nations, upon hero-worship. We recede from mankind backward to the time when heroes and gods are commingled, and reach the horizon where humanity and divinity are one. It is claimed for the Chinese that they are the only possessors of a correct, or at least an exact, chronology, but even it does not substantiate the existence of the first of human creatures, who is said to have lived well-nigh a hundred millions of years before the Christian era. Fou-Hi was the first man of whom we can take cognizance, and he lived B.C. 3468. Nearly eight hundred years afterward, Hoang-ti invented pottery and was translated, and the beginning of the manufacture may reasonably be fixed at that date. He did many other useful things besides inventing pottery; but what is now to be chiefly noted is that he was raised to the Chinese heaven for his beneficence. Behind this simple and almost universal hero-worship was a religion compounded of pantheism and a peculiar kind of spiritualism. Chang-ti bears some resemblance to the Egyptian concealed god Ammon, and those who choose may find similar counterparts to the creative and productive principles of the Chinese theogony. These were called the "yang" and the "yn," and appear to be the active and passive principles personified in Ti and Che, the presiding powers of heaven and earth. In pottery, they frequently appear in connection with the Pa-kwa, or eight diagrams of Fo or Buddha, a series of combinations of three lines by which nature's changes were represented. Thus on each side of a square vase are the *yang* and *yn*, with one of the diagrams above and one below. On another piece of porcelain the *yang* and

yn occupy the centre, round which, in a circle, the diagrams are arranged. With such a foundation Chinese religion is divisible into three component parts—that based upon the teachings of Lao-tseu, that of Confucius, and Buddhism. Lao-tseu and the legend of his birth are especially interesting to the student of Chinese ceramics. The story goes that, after a pregnancy of eighty-one years his mother brought him into the world, while she was a wanderer in the country. When born, his hair was as white as that of an old man, and hence his name, Lao-tseu, the old man-child. When he grew up, he became a recluse, and spent years in the study of abstract religion, out of which studies grew the "Tao-te-king," an exposition of his views of religion and morality. His followers deified him, and in course of time he was regarded as identical with Chang-ti. In this form the potters represent him, and also as the God of Longevity. He is called alternatively Lao-tseu and Cheou-lao. As the God of Longevity he is represented (Fig. 63) with long white beard and lofty, conical, bald head. His face wears a broad smile, and in his hand is the fruit of the fantao, a fabulous tree symbolical of long life, because it was said to bloom only once in three thousand years, and to bear fruit a thousand years afterward. As Chang-ti, the supreme god, he is riding or leaning upon a deer, is dressed in yellow, and around him are clusters of the immortalizing agaric, ling-tchy.

Fig. 63.—Cheou-lao, God of Longevity.

Confucius, or Koung-tseu, who followed Lao-tseu, was a conservative philosopher, who led his countrymen back to old forms and ancestral hero-worship. He appears as the representative of Buddhism alternatively with Fo or Buddha, and as such holds a roll of manuscript or a sceptre in his hand.

Kuan-in (Fig. 64) was first taken to be the Chinese Venus. She is represented in various attitudes—standing with downcast eyes, or sitting, and holding either a child or a rosary.

Pousa, or Pou-tai, the God of Contentment, is also styled the potter's god. How he came to be the latter, or to be a god at all, is explained by a good story. The emperor for the time being demanded porcelain, the fabrication of which was represented to him as an impossibility. This information only served to whet his appetite; and to gratify his imperial whim, the workmen were oppressed by their overseers, and driven by threats and blows to make all kinds of sacrifices and exertions to reach the unattainable. At length one of them gave up the struggle, and in despair threw himself into the furnace. When the contents of the kiln were taken out, they were found to be all that the emperor desired, and the rigor from which the potters had suffered was abated. The workmen apparently concluded that such a result was due to some property unknown to alchemy in the body of their comrade. Gratitude led them to respect his memory, and in due course he became a hero and a god. Images of him abound in the workshops of King-teh-chin. Full of sensuality and good-humor, his face wears the laugh of contentment, and his heavy, corpulent body is supported by the wineskin upon which he leans. Without resorting to the explanation to be found in the story, one can readily understand why such a god as Pou-tai should commend himself to the slavish and impoverished potter.

Fig. 64.—Kuan-in. (S. P. Avery Coll.)

In every collection of Chinese ware will be seen certain forms made use of for decorative purposes, and which have also a symbolical significance requiring explanation. Without going into the question of the origin of the wonderful dragons of the Celestials, their presence, in various degrees of hideousness, on vases and elsewhere, cannot fail to attract attention and suggest inquiry. They are many-shaped, as the devils which beset the good St. Anthony. There are the Long, dragon of heaven; the Kan, dragon of the mountain; Li, dragon of the

sea, and many others, scaled, winged, horned, and hornless. Under the form of a dragon many of the immortals are represented, and it only appears in our mundane sphere on some great occasion, when, for instance, Hoang-ti was called upon to join the powers above. As emblems, the dragons require attention, since their significance varies with the number of their claws. That with five claws is seen upon the imperial standard, and is the emblem of the emperor and princes of the first and second class. The four-clawed dragon is the emblem of princes of the third and fourth rank. The Japanese dragon is a tripedal representative of the species. Chinese princes of the fifth rank and mandarins have the four-clawed serpent, Mang.

Fig. 65.—The Dog of Fo.

Another figure very often seen upon Chinese vases, and now, alas! on some European vases also, is the Dog of Fo (Fig. 65). It frequently does duty as a handle, but occasionally it forms an ornament, either by itself or sporting with another of the species. In the latter cases its lion-like appearance degenerates into a hideous ugliness thoroughly Chinese, and illustrates the peculiar tendency of that people to bestow upon their fantastic monsters a massive breadth of jaw and cavernous oral capacity, such as we find in their dragons and in the Ky-lin next to be noticed. The Dog of Fo is the Buddhic guardian of temples and altars.

Fig. 66.—Vase, surmounted by Ky-lin. Flowers in Relief. (A. Belmont Coll.)

The Ky-lin (Fig. 66) is one of the most forbidding chimeras ever chosen as an omen of good. Its scaly body, its wide mouth fully armed with formidable teeth, its

dragon-like head and hoofed feet, make up a monster as horrible in aspect as it is gentle in disposition.

The Sacred Horse (Fig. 67) is preserved by the Chinese among their symbols, because by the marks on the skin of a horse which suddenly rose from the river, the philosopher Fo was inspired with his diagramic solution of the methods of nature.

Fig. 67.—The Sacred Horse.

The Fong-hoang (Figs. 68 and 69), the immortal bird, harbinger of good, very often resembles a peacock on the wing. When represented in front, its arching neck is turned to one side, and the long tail feathers are fantastically drawn high over its body. Formerly it was the imperial emblem; but on the adoption of the dragon it was relegated to the empress, whose emblem it became.

The symbols of longevity are the white stag, the axis deer, the bat,

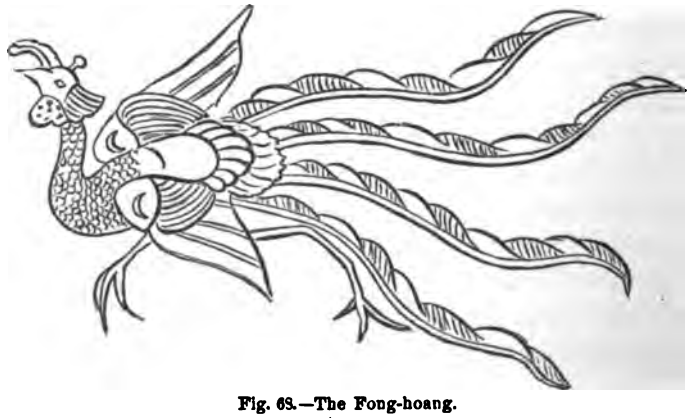


Fig. 68.—The Fong-hoang.

and the crane; of filial piety, the stork; of happy marriage, the mandarin duck. The months are represented as follows: January, tiger;

February, rabbit; March, dragon; April, serpent; May, horse; June, hare; July, ape; August, hen; September, dog; October, wild-boar; November, rat; December, ox.

In China, almost every usage is regulated by a specific rule; and we are not astonished, therefore, to find that colors and shapes in porcelain and pottery are distinctive of the rank of the possessor, and have, besides, a symbolical signification. Thus one dynasty, the Tsin (A.D. 265), took blue as its imperial color; the Soui (581–618) took green; the Thang (618–907) took white; the Ming, green; the Tai-thsing, yellow. The colors thus frequently give a clue to the age of pieces. The first dynasty began B.C. 2205; the twenty-first, or Ming, A.D. 1368; and the twenty-second, or Tai-Thsing, in 1616.

Fig. 69.—Vase with Fong-hoang. (Robert Hoe, Jr., Coll.)

Apart from the dynastic significance of colors, they enter largely into the complex system of Chinese symbolism. Thus the points of the compass and the elements are represented as follows:

Red	Fire	South.
Black	Water	North.
Green	Wood	East.
White	Metal	West.

The earth was figured by a square, fire by a circle, water by a dragon, mountains by a deer.

The form of a vase is also of value in determining its use. Besides the complimentary manner already alluded to, in which vases were employed, they were bestowed as rewards upon deserving public functionaries, and passed between friends as tokens of good wishes. They also occupied a prominent place in religious rites.

We may now proceed to a division of Chinese wares into pottery and porcelain.

POTTERY.

When First Made.—Céladon.—Crackle.—How Made.—Porcelain Crackle.—Decorations on Crackle.—Household Vessels.—Stone-ware.—Licouli.—Tower of Nankin.—Pipe-clay.—Boccaro.—Colors and Decoration of Pottery.—Colors on Crackle.

Although we may not accept without question the statement that pottery was first invented either by the Emperor Hoang-ti, or during his reign by Kouen-ou, it may at least be taken for granted that pottery preceded porcelain. To define the character of the earliest ware is not unattended with difficulty. One fact which had a great influence upon Chinese art may here be referred to. So soon as pottery was invented, it was taken under government supervision. Subsequently, when porcelain was discovered, the manufacture for many years made very little progress. It was not until it came under imperial protection and patronage that it rose to its greatest height. It will be seen hereafter that in Continental Europe also the best works in ceramic art were, as a rule, produced under the fostering care of the sovereign power.

The oldest Chinese pottery is very hard, opaque, closely akin to stone-ware, and covered with a partially translucent enamel. The latter called Céladon, and made by mixing the colors with the glaze, varies from the old, and now very rare, sea-green to a brown-gray. The term *céladon* was originally restricted to the sea-green variety, but was ultimately applied to all wares, of whatever color, made in the same manner. The most ancient specimens are of the coarse body above referred to. Occasionally they are decorated with incisions in the paste under the glaze, or with studs and other reliefs, or with flowered designs (*céladon fleuri*), and are called by the Chinese *Tchoui*. There is also a céladon of a deeper green than that last referred to, which, with that of the gray varieties, is very often covered with an inextricable net-work of cracks. This is the kind known as crackle. The process which the Chinese succeeded in bringing to the most exact precision in regard to the size of the cracks is not thoroughly understood. Several theories have been advanced to explain it. Examination shows that the paste or body of the ware and the glaze differed in consistency, the one being more or less expansive than the other. To perform the operation successfully, the vessel is,

while hot, plunged into cold water, or brought suddenly into contact with cold air, when the glaze is at once broken up into the much admired net-work of minute fissures. From this it would appear that the desired effect is caused by the shrinkage of the glaze on being suddenly exposed to cold. Another explanation is that there are two layers of paste of different composition, and that the cracks appear in the outer one. When the piece is glazed, the cracks are covered over, and the surface made perfectly smooth, unless the cracks are very coarse and large, in which case they are perceptible to the touch. Through the cracks the fused paste or inner core appeared, and made them more distinctly visible; or, to reach the same effect, ochre, ink, or other coloring material was rubbed into the cracks. To produce them with the absolute precision to which the Chinese attained, they must have thoroughly studied the composition of the paste and glaze employed, as we frequently find different kinds of crackle on the same vase.

Steatite was sometimes mixed with the glaze, and had the same effect as a sudden immersion. It would naturally follow that no such ornamentation could be applied to porcelain, the paste and glaze being too closely allied in composition. To surmount this difficulty, the glaze was combined with materials destructive of its close affinity with the kaolinic paste. A simultaneous shrinkage being thus made impossible, the glaze cracked. Although both Chinese and foreigners place a high value upon good specimens of crackle, admiration of such a style of ornament involves a decided perversion of taste. It is safe to say that nine persons out of ten would, if left to exert their own uninfluenced judgment, condemn a crackle vase as devoid of all pretension to ornament. It is when we find that the deformity is the result of design, that the piece is a curiosity of workmanship, and represents the mechanical ingenuity of the potter, that it becomes an object of interest and a desirable possession. Crackle-ware has been made by the Chinese since the Song Dynasty, which extended from A.D. 960 to 1279, and probably from a much earlier date. Ornamentation is sometimes laid above the glaze. One very old style of decoration in relief upon the crackle (Fig. 70) consists of medallions and bands of a brown paste, of which imitations, having lions' heads holding rings in the centre of the medallions, are abundant.

Pottery is used by the Chinese in the making of household vessels

and utensils of all kinds—as extensively, in fact, as by the Egyptians. They have earthen-ware reservoirs and basins, lamps, cooking-pots, water-filterers, teapots, and toys. Ornamental vases are also made of earthen-ware, and some specimens show that the Chinese lavished upon their comparatively humble wares—according to our ideas—ornamentation as beautiful and elaborate as that upon porcelain.

Their stone-ware, covered with porcelain, presents us with some of their most wonderful works. This ware is made into jars, seats, cisterns, and many other utensils and objects. It is said to have been in attempting to make plaques of this kind that Pousa or Pou-tai met with his tragic end as before told. The plaques, Licou-li, or glazed tiles, are devoted to the embellishment of imperial and religious edifices, and by the brilliancy of their many colors, yellow, blue, green, red, and violet, produce a dazzling and gorgeous effect. The famous porcelain tower of Nankin (Fig. 71), or, as it is alternatively called by the Chinese, Tower of the Licou-li, or Poa-en-ssi, the Convent of Gratitude, was covered with tiles of the above description. This building has been repeatedly destroyed and rebuilt. The original consisted of three stories, and was erected B.C. 833. Having been demolished, it was rebuilt A.D. 371–373. It was again destroyed, and again rebuilt by one of the Ming emperors, who, after nineteen years' work, finished it in 1431. Once more it was demolished during the insurrection of the Taepings; and although travellers—including some Americans—have within the past twenty years been fortunate enough to secure a few fragments as relics (Fig. 72), nothing now remains to mark its site. It was this last tower which was known as the Convent of Gratitude. It consisted of nine stories, and was three hundred and fifty-three feet in height. It was covered with enamelled bricks of red, white, blue, brown, and green

Fig. 70.—Rice-colored Crackle, with Brown Zones. (S. P. Avery Coll., N. Y. Metrop. Museum.)

colors; but whether the previous towers were so decorated is not known, so that the Tower of Nankin cannot be brought forward as proving the architectural use of enamelled stone-ware at a very remote age.

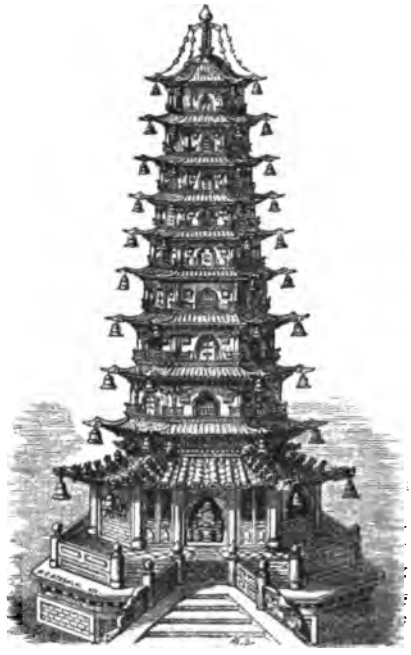


Fig. 71.—Tower of Nankin.

A material which is neither stone-ware nor porcelain, but resembles very fine pipe-clay, is used in making opium pipes. The bowl is enamelled, and decorated with flowers or other forms, and is not unfrequently almost perfect as a work of art. The Chinese *boccaro* remains one of the finest specimens of a *grès* known to ceramists, and far above any of the stone-wares of Europe. Some specimens are as perfect in their beauty as jewels. The paste is sometimes brown of a reddish tinge, sometimes a gray faintly colored with yellow. It is made into single pieces and services, occasionally of fantastic design. When covered with colored enamels, the *boccaro* is at once so delicate and brilliant as to be likened to nothing but a gem.

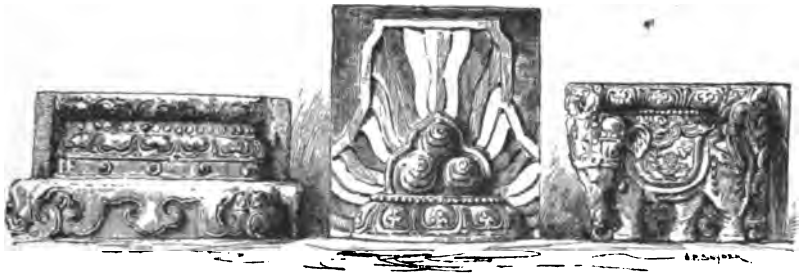


Fig. 72.—Enamelled Bricks from the Tower of Nankin. (N. Y. Metropolitan Museum.)

At a very early period the Chinese attained to that wonderful mastery of the secrets of color which made them the envy of the artists

of all subsequent time, and has led to the adoption of certain of their colors as universal standards of beauty and excellence. Combined with the certainty of their operations in crackle, their skill in color led to many remarkable effects in wares, the precise nature of which cannot be defined. Upon a rich golden crackle, white-and-blue figures are occasionally imposed (Fig. 73). In some cases the enamels used for this superornamentation are so transparent that the cracks can be seen through them. Possibly the most curious kind is that in which the vase is encircled by bands of crackle, some coarse and irregular, alternating with others fine and regular, and divided by stamped zones of brown ferruginous paste. Both Japanese and Chinese place a very high value upon the ancient specimens, the priority in point of time being accorded to the light blue. Besides the colors already mentioned, turquoise-blue, yellow, and a bright red are found upon crackle, to the first of which a special value is attached. The fine crackle, called by the French *truité*, is most frequently applied to vases of pale and olive-green not otherwise decorated. One cannot look at the exquisite coloring of some of the rare old pieces, without being led to the conclusion that the Chinese placed a value upon their ceramic productions not more than commensurate with the artistic skill developed among them.

Fig. 73. — Crackle Vase, with Crabs in Blue. 7 in. high. (J. C. Runkle Coll.)

Fig. 74.—Chinese Porcelain Lantern. (S. P. Avery Coll.)

PORCELAIN.

When Invented.—King-teh-chin.—All Classed as Hard, Exceptions.—Old Porcelains.—Kouan-ki.—Blue-and-white.—Persian Styles.—Turquoise and other Blues.—Leading Events of Ming Dynasty.—Egg-shell.—Tai-thsing Dynasty.—Mandarin Vases.—Families.—Old White.—Jade.—Purple and Violet.—Liver Red.—Imperial Yellow.—Chinese Ideas of Painting.—Soufflé.—Grains of Rice.—Articulated and Reticulated Vases.—Cup of Tantalus.

Porcelain having been invented in the province of Ho-nan, during the Han Dynasty, between the years B.C. 185 and A.D. 88, was manufactured for upward of fifteen hundred years before it was generally

known in Europe. For about five or six hundred years the industry made comparatively little progress, but after A.D. 583 it advanced with great rapidity. In that year the imperial patronage was bestowed upon King-teh-chin, a city in the district of Fauling, and province of Kiang-si. There were here at one time, in 1717, three thousand furnaces. It is said by some recent authorities that all the kilns and potteries were destroyed by the Taepings, and that the entire city was reduced to ruins. According to the official catalogue of the Chinese department at the Centennial Exhibition, the city must have been rebuilt. Both the largest quantity and finest quality of porcelain are said still to be made at the imperial potteries at King-teh-chin, and out of upward of seventeen hundred and fifty pieces exhibited, all were from that city, with the exception of ten from Ningpo, Nankin, and Pekin. Some of the others, although painted at and sent from Canton, were manufactured at King-teh-chin.

All Chinese porcelain has been classed as hard. The only kind about which any doubt has been entertained is the white, variously ornamented in relief. To this ought, however, to be added certain rare but superb specimens which come from China as well as from Persia. The process by which they were manufactured is not known, but it seems clear that they belong to the same family as the *pate tendre* of France, that is to say, that their vitrification is due to an alkaline frit, and that the glaze is also alkaline.

Of the dynastic colors the azure-blue adopted by the Tcheou, in 945, is the most celebrated. It was very highly valued, and after the secret of making it passed out of sight, which it did at a very early date, it was never rediscovered. It is known as Tch'aï porcelain, and in color resembled the "blue of the sky after rain." Under the Song Dynasty four very valuable kinds of porcelain were made. The first of these was the Jou-yao, a very fine blue, produced at Jou-tcheou, where crackle porcelain was also made in great perfection; the second (1107–1117) was the famous Kouan-yao, or porcelain for magistrates, of two shades of blue, with a slightly reddish tint; the third takes its name from the Tchang family of potters, and was pale blue and rice-colored crackle; the fourth, the Ting-yao, was of different colors—red, white, brown, and black, and was of great value. These, with the Tcheou blue, are the five ancient qualities held in highest estimation.

There were many other kinds, too numerous to be here given in detail, including the "porcelain of concealed color," so called because designed for imperial use, and others of varying tints of violet, brown, purple, and blue. At King-teh-chin jade-colored porcelain was made before the tenth century, and a hundred years later the entire empire was interested in the manufacture. With a mere reference, in the mean time, to the blue-and-white porcelain of the Youen Dynasty, we pass to that of the Ming, to which some of the porcelain most highly prized by collectors belongs. When, in 1369, a factory was started at King-teh-chin to supply the imperial wants exclusively—an event not to be confounded with the foundation of the King-teh-chin manufactory, which took place during the Song Dynasty, three hundred and fifty years previously—the vases of blue camaïeu, called Kouan-ki, or magistrate's vases, were made in that city. These valuable works were probably intended to follow as nearly as possible the more ancient Tcheou porcelain, which had reached so great a value that even fragments of it were employed like precious stones. It will be observed that the earlier magistrates' porcelain was made under the Song, and the explanation is given that the Ming Kouan-ki were so called to distinguish the porcelain made at the royal factory from those made for vulgar use. It may be added that the old turquoise blue was made from copper, and the sky-blue from cobalt.

The blue-and-white "Nankin" is a comparatively modern ware made at King-teh-chin. It takes its name from the place of export. It is, in the strict application of the term, not older than the beginning of the sixteenth century, when the Chinese began to use imported cobalt; but as now employed, it includes all Chinese porcelain with blue-and-white decoration. The folly of such an unmeaning subdivision finds its reward in the confusion of the student. The blue-and-white is not only the oldest of all Chinese decoration in colors, but is found upon some of the most interesting and valuable works.

The best pieces, whether ancient or modern, are distinguished by the purity of the white and the clearness of the blue. To this class belong the Kouan-ki already referred to as having been made soon after the middle of the fourteenth century at King-teh-chin. These productions frequently bear certain honorific marks, from which their destination can be inferred. The leading symbols are eight in num-

ber; and when, as is very often the case, they have a ribbon attached, the pieces are designed for sacred use. Thus the pearl (Fig. 75) marks pieces destined for poets or literati, and is the symbol of talent. It varies slightly in form, being in some cases very small, with a conical top, and in others resembling a flattened sphere. The "sonorous stone" (Fig. 76) is for judges or magistrates, and was hung above their door or at the temple gates, to be struck by those seeking an audience. Pieces with this mark were, therefore, exclusively for the use of judges. The Kouei, or tablet of honor (Fig. 77), is the symbol of office. It was given by the emperor to his noble functionaries, who were required to hold it when discharging the duties of their office, and during an audience. The sacred axe (Fig. 78) is the mark of warriors. The cockscomb (Fig. 79) is the symbol of longevity. The "sacred things" or "treasures of writing" (Fig. 80) are the emblems of the learned, and consist of paper, pencil or brush, ink and pumice-stone. The outang (Fig. 81) is a leaf, the significance of which is not understood. It is frequently found on the bottom of pieces. The meaning of the univalve shell (Fig. 82) is also unknown. These marks and many others are found variously disposed upon blue-and-white porcelain. In the illustration (Fig. 83) the pearl, the sonorous stone, and the Kouei are seen in combination with others, and the inference is that the piece was intended for a man of letters, of noble rank, who also held the office of magistrate. The lace or lambrequin decoration round the border is exceed-

Fig. 75.—Pearl.

Fig. 76.—Sonorous Stone.

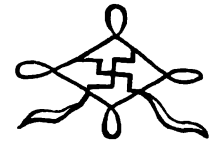


Fig. 77.—Tablet of Honor.

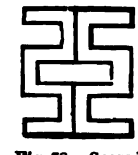


Fig. 78.—Sacred Axe.

Fig. 79.—Celosia.

Fig. 80.—Treasures of Writing.

Fig. 81.—Outang.

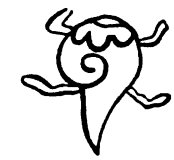


Fig. 82.—A Shell.

ingly rich and fine, and shows at once whence the artists of Rouen borrowed their favorite design. In other pieces the honorific marks are introduced in the design, or appear upon the neck of vases, or are so disposed as to constitute the chief ornaments. The latter arrangement is exemplified in a small vase, also in Mr. Runkle's collection, where the symbols are suspended one above another.

Fig. 83. — Blue-and-white Plaque, with Honorific Marks. (J. C. Runkle Coll.)

There is in Mr. Avery's collection a Ming bowl, or cup of "the learned," which closely resembles one described by Jacquemart. The rim projects slightly, and in panels reserved in the border are the honorific marks. The author is represented seated at a table, deep in meditation, in the very throes of composition. From his forehead issues a scroll which expands into the semblance of a cloud, wherein are depicted by the artist the scenes of the drama which the poet is composing. This method of representing literary travail is in our time left to the caricaturist; but it is, nevertheless, a vivid way of giving artistic form to the thoughts passing in the brain of "the learned."

Fig. 84.—Blue-and-white. Eight Chinese Celestials standing on Clouds. (W. L. Andrews Coll.)

The blue-and-white will

amply repay the most careful and critical study. This is absolutely necessary if we would distinguish not only the art which is Chinese, but the best of the Chinese—that emanating from King-teh-tchin—from the works of other factories. The influence of the imperial factory is felt throughout the empire. Its styles and methods are copied and adopted, but imperial patronage, and the resources of a factory carried on under the highest political auspices, make the work of provincial imitators difficult. Then, again, the blue-and-white of Japan is sometimes mistaken for that of China, and it must be confessed that the difference is not always easily detected. Close observation, however, shows that the white of the Japanese differs from the Chinese, and that the blue is less soft. The white of Japanese pieces is purer, and sometimes it is what we understand by the phrase "dead white;" that is, it resembles chalk, and lacks clearness. As a consequence, the color does not derive from the glaze the softness and transparency of the Nankin blue, but appears to lie upon the surface in harder outline and with less depth. Besides the Japanese, there are qualities of blue from India, Persia, and other countries, which require careful examination to prevent their being confounded with those of China.

Fig. 85.—Blue-and-white Lancelle Vase, Ming Dynasty. (W. L. Andrews Coll.)

An exceptional style of decorating blue-and-white Chinese porcelain is that in which a light buff, varying at times to a clear brown, is mingled with the blue. This is seen in bands surrounding the necks of bottles and similarly shaped pieces, and is also occasionally mingled with the blue on the necks of vases.

As to the forms and styles of decoration of blue-and-white porcelain, they are too varied to permit of classification. Some of the finest shapes are to be found in this class, and also some of the most unique and curious. Beakers, with gracefully expanding necks alter-

nate with clumsy pieces without any claim to beauty of form, and these, again, with such elegant shapes as the Lancelle (Fig. 85). The decoration includes every style known to Chinese art. On the Kouan-tse are dragons writhing in tortuous folds among the clouds or in the water, and flowers profusely scattered without any attempt at orderly disposal. On others are historical scenes, *lang lizen*—the long young ladies of Dutch traders—lace or lambrequin patterns, and many other designs. The palm-leaf is very effectively used. In a beaker in Mr. Runkle's collection, the conical leaves are arranged round the body, whence they rise toward the top and descend toward the bottom, and thereby give emphasis to the shape as it expands to the lip and base. In such an arrangement the taste of the Chinese artist is infallible. The disposition of the decoration, which at first seems stiff and formal, is not only in harmony with the shape of the beaker, but is the only one by which its beauty of form could be fully brought out. When historical incidents are the subjects of the painting, the execution of the figures is admirable. It is in such pieces that we can best appreciate the accuracy of the artist, and his admirable control of his brush. He understands that a few judicious strokes may have a finer, and, by their suggestiveness, a fuller, effect than crowded detail and the most delicate shading. They show, further, that the art of decorating a vase with human figures consists in judgment as much as in execution. Thus, where the forms are distorted and the unity of the composition destroyed by the shape of the vase and the disposition of the figures, not only is the decoration unpleasing, but the artist fails in reaching the effect aimed at. These are faults of which the Chinese artists are seldom guilty, and their skill in overcoming the difficulties presented by the curves

Fig. 86.—Blue-and-white Chinese. (J. C. Runkle Coll.)

or angles of the object to be decorated can be better studied in a collection of blue-and-white than among the porcelain of any other family. When it is considered that only one color is employed, the diversity of the results is wonderful. In many cases this is effected by apparently varying the application of the pigment, and laying it on more thickly in some places than in others. We have seen this exemplified on a vase where the ornamentation was chiefly floral, and the flowers were painted so thinly as to give the effect of a distinct and paler shade of color. We have also seen pieces where the differences of shade were so regular and striking as to leave little doubt that two distinct qualities of blue were used.

Fig. 87.—Blue-and-white Chinese, "Hawthorn" Pattern. (S. P. Avery Coll., N. Y. Metrop. Museum.)

When the Chinese artist condescends to adopt a regular pattern, his attention is directed to relieving the monotony of repetition by diversity of detail. In the vase (Fig. 86) there are at least six distinct styles of edging, and a slight change in the arrangement of the same pattern on the body and neck gives all the variety of two distinct designs.

A well-known but rare pattern is that called Hawthorn (Fig. 87) by Europeans, on the *lucus a non lucendo* principle, since the so-called "hawthorn" is the blossom of certain fruit-trees better known to the Celestials. In this the blue is the ground-color, and in it the decoration, consisting of sprigs of bud and blossom, is reserved. The ground

is varied with dark blue lines, as if to simulate crackle, and the sections are shaded so as to have the appearance of overlapping each other. The irregular lines and changing tints not only relieve the ground of monotony, but enrich the general effect, and give the blue additional depth and transparency. The illustration gives a good idea of the freedom with which the spray is disposed, and the good taste with which its arrangement is adapted to the shape of the vase. The decoration is generally applied to vases and pots of the shape given above. Further examples are in the collections of Mr. Robert Hoe, Jr., and Mr. W. L. Andrews. There are also many smaller pieces, such as plates, narrow cylindrical beakers, and others, upon which it may be seen. These are represented in the collections of Mr. Francis Robinson and Mr. W. T. Walters. In such pieces as those last mentioned the ground is less broken up by lines, and in some cases the white is reserved in a ground of unbroken pale blue. In the second specimen (Fig. 88) the white blossom is used with a more sparing hand than in the others, and the eye more readily appreciates the wonderfully beautiful shading of the overlapping sections. The unevenness of surface is also more perceptible to the touch, and, to use a familiar illustration, resembles the overlapping of slates upon a roof.

Fig. 88.—Blue-and-white "Hawthorn" Vase. (J. C. Runkle Coll.)

Although not belonging to the same family, we may here refer to a rare vase (Fig. 89), which supplies us with a remarkably fine specimen of a kindred style of ornamentation. In this case the ground is black, and the "hawthorn," or plum-tree, sprays, with white flowers, are wreathed gracefully over its surface. The green of the leaves would

lead us to class it with the Green family. The piece is, however, exceptional, since black is, as a rule, seldom introduced to any great extent in decoration. To what fabric or age shall we attribute it? It is possibly a specimen of the skill of Thang-kong, who lived between 1736 and 1795, and was director of the Imperial works. Thang not only reproduced some of the ancient colors, such as the dark-blue and red, but gave full sway to his own inventive genius. Among his original works are a purple, a black enamel, and a black enamel with white flowers, which suits the description of the unique specimen referred to. It is, in any event, by reason both of its graceful shape and decoration, deserving of attention.

Fig. 89.—Chinese Porcelain. White "Hawthorn" on Black. (S. P. Avery Coll., N. Y. Metropolitan Museum.)

To return to the blue-and-white, there are specimens, generally plaques, with flowers resembling asters, painted in blue (Fig. 90). One has some difficulty in bringing the formal arrangement of these flowers into accord with Chinese art as we find it elsewhere. The flowers are regularly disposed in the centre of the plaques, and repeated, in smaller size, in a single row round the rim. It seems more than probable that the style is borrowed or slightly modified, and one is strengthened in such a supposition by the fact that it is seldom, if ever, found upon pieces as pure in paste as the average Chinese porcelain. Possibly, with the intention of following his model more closely, the Chinese artist designedly resorted to an inferior body, such as might have reached China from Persia.

There are certain pieces of blue-and-white in which both Persian forms and Persian styles of decoration have been followed, and these introduce the general subject of Persian influence as felt in China. It first manifested itself as far back as the Siouen-te period (1426) of the Ming dynasty, and is further represented by pieces belonging to

the sixteenth and seventeenth centuries. The most easily recognized are those in which the Persian form is adopted, although the paste alone would lead one to ascribe them to China, as it is invariably finer than anything known to have come from Persia. There is in Mr. Runkle's collection a ewer decorated with flowers in light-blue, resembling that of Tch'aï porcelain, the famous "blue of the sky after rain." Real examples of this old blue must needs be rare, since the porcelain, variously called Tch'aï, Tcheou, and Tchi-tsong, was, like the old white, valued, even in fragments, as highly as jewels. A second from the same collection is given on the following page (Fig. 91). The panels are black, the flower and border decoration are in pink, green, and yellow, and show the variety and execution distinctive of Chinese work. There are many pieces of the same class in which the artist has attempted to follow the Persian styles more closely, but even a slight examination can leave little doubt of their Chinese origin. In connection with the blue-and-white decoration may be mentioned the vases of sea-green céladon, in which panels of white are reserved. On these are figures of men and animals, landscapes or flowers, in blue. A favorite form, and one well suited to this style of decoration, is a square bottle or vase, the sides of which enable the artist to paint the design in blue upon the flat.

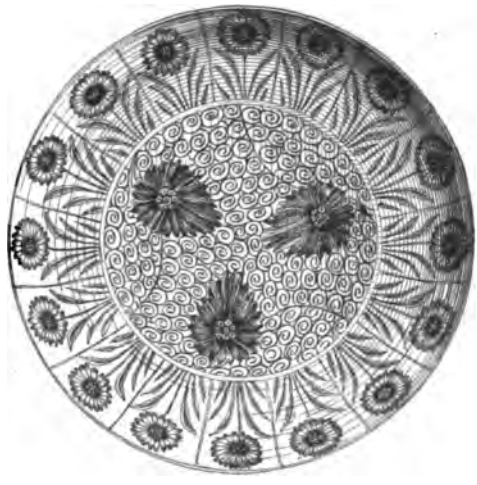


Fig. 90.—Aster Decoration. Blue-and-white. (W. L. Andrews Coll.)

Of the other blues which were used as ground colors, one of the most famous is the turquoise obtained from copper. It has all the clear depth of the stone from which it takes its name, a liquid transparency elsewhere unequalled. It appears on a great variety of pieces—gods, kylins, birds, dogs, and vases. The latter are very often graved in the paste, after designs more or less ornate. In the specimen given (Fig. 92), which is very finely

crackled, the leaves are bound together by a zone decorated with the Greek fret.

The *lapis lazuli* blue has a deeper tint, and is usually decorated with gold. It is used as a ground color, and fine specimens lead one to question the appropriateness of the name, as the porcelain so decorated has a brilliancy and depth far in advance of the comparatively dull stone. The color is occasionally employed in Persian decoration, and varies in shade.

Fig. 91.—Chinese Porcelain. Persian Style. (J. C. Runkle Coll.)

The mazarine blue is similarly treated, and is also effectively heightened by a super-ornamentation of gold of different shades. There are many other tints to which it is hard to give even a distinctive name. They illustrate the extreme partiality of the Chinese for this color, a partiality which has never wavered for at least sixteen centuries. It has been the means of giving to the world a greater number of beautiful works of art than would otherwise seem to be within the reach of the most skilful manipulation and the most prolific fancy, when restricted to a single color.

The *soufflé* porcelain will be hereafter noticed, but in the mean time, to prevent misapprehension, reference may be made to the *bleu fouetté*, a style sometimes confounded with the *soufflé*. It is less deep in shade than the *lapis lazuli*, and has a mottled appearance. It is

used as a ground color, in which are sections of white, and on the latter are brilliant designs in red, green, and gold. The effect is rich, and the contrast between the panel painting and the more sombre ground color is very striking. There are also blues splashed over with spots of red and lilac, and many others, such as the "transmutation" or flashed glaze, illustrative of the magical dexterity of the Chinese workman. What on first sight seems the result of an accident in the kiln, will often prove to be that of a carefully conducted operation and deliberate intention.

We may now glance briefly at the various fabrics of the Ming Dynasty, in their chronological order.

The establishment of an imperial factory at King-teh-chin, as above stated, marked the beginning of the Ming, during which (1368–1649) the art rose to its highest level. After the blue Kouan-ki came vases and vessels of various colors and styles of decoration. Between 1403 and 1424, egg-shell porcelain, so called from its remarkable thinness, was first issued from King-teh-chin, and between 1465 and 1487 reached its greatest excellence and fineness. It was made as thin as paper, and was so favorably regarded by the emperors that they gave rewards to those making the finest pieces. Its gauzy transparent tenuity is effected by grinding it down after glazing. Vases, as well as cups, etc., were made of egg-shell, which at a later date was painted in colors. The fifteenth century saw the greatest triumphs of Chinese artists. From 1426 to 1435, the Sionen-te period, very brilliant blue, red, white, and veined crackle was made. Representations of crickets were a fashionable style of ornamentation. Afterward, between 1465 and 1487, although the colors deteriorated, the beauty of the ornamentation increased toward

Fig. 92.—Turquoise-blue Chinese Porcelain. *Truité* Crackle. (S. P. Avery Coll., New York Metropolitan Museum.)

its artistic extreme. With the sixteenth century, we have seen that foreign material for ornamentation began to be introduced; and although many original artists continued to appear, others restricted themselves almost exclusively to the imitation of ancient wares. Tcheou, who lived between 1567 and 1619, took particular delight in puzzling collectors by skilful counterfeits of the most famous, rare, and valuable old wares. According to a story told by Julien, he imitated the ancient Ting white, made from three to six hundred years before his time, so closely, that he duped the most acute collectors. More than a century later, between 1735 and 1795, Thang-kong, already referred to, displayed great imitative skill. It is, however, evident, and a matter of regret, that, from the beginning of the eighteenth century, the ceramic art of China declined. While the materials employed are still equal to the most ancient, the ornamentation after that date became, as a rule, manifestly inferior. To what extent a more intimate intercourse with foreigners and the more extended demands of trade resulting therefrom may have contributed to such a result, we need not now inquire. The greater rapidity of execution necessitated by increasing orders from abroad, and the influence of European models, had no doubt their effect. All the best pieces were retained for native use, and only the inferior qualities were exported. The estimation in which the Chinese hold the rarer pieces is further illustrated by the fact that specimens which have found their way to Europe have been sent back to China to be sold, because there they would realize higher prices. Many of the better kinds have never been seen in Europe; and when in addition to this it is remembered that, while skilled in production, the Chinese were equally clever in imitation with fraudulent intent, many other kinds are in all likelihood really unknown beyond the bounds of the Celestial Empire.

There are, besides the works of such an artist as Thang-kong, exceptional pieces of the Tai-thsing Dynasty, especially those of the Kien-long period, during which Thang-kong lived, that are in every way admirable. One example of this period (Fig. 93) has a ground color of light green, overrun with a graceful floriated design graved in the paste, and having reserved panels, in which are a landscape on one side and a tree and bird on the other. In another the ground is a delicate pink, and the figures are raised. Examples might be multi-

plied to any extent, which show that, however faulty the later specimens may be, there is no lack of variety. The artists resorted to every style of decoration within the reach of their skill, and some exceedingly beautiful porcelain of various families will be found to belong to the Kien-long period.

The Tai-thsing Dynasty is also marked by the production of the vases called "Mandarin," usually, but in our opinion mistakenly, ascribed to Japan. The history of China at this time is for our present purpose valuable. So long as the two dynasties were at war, art was neglected; and we therefore find that, for several years prior to the establishment of the Tartar Dynasty, the manufactories gave out no works of note. When the Tai-thsings were firmly seated on the throne the art received a new impulse. While Khang-hi reigned (1661–1722), Thang-ing-siouen was director of the imperial factory, and made two yellows, a green and blue. He was succeeded in 1722 by Nien, who was equally successful, and in 1736 was associated with the artist Thang-kong before mentioned. After Kien-long, the fourth of the Tartar Dynasty, the art went rapidly downward. It will be observed from these few facts that when the decline of Chinese art is spoken of as beginning with the eighteenth century, allowance must be made for the check experienced under Kien-long (1736–1795). When he ascended the throne there were, according to M. Julien, fifty-seven manufactories of porcelain in China, of which seven besides that of King-teh-chin were in the province of Kiang-si. Whatever condition art may have been in, there was plainly no stagnation in production.

Fig. 98.—Kien-long Green Porcelain Vase. (J. C. Runkle Coll.)

And now as to the mandarin vases, which strictly reflect the history of China: the word "mandarin" is applied to all the public

functionaries of China, and, in the decoration of porcelain, includes all the figures with toque and vest seen on the vases of this period. When the Tartar Dynasty came in, one of the first imperial acts was to issue an order that certain new customs should be adhered to, and old ones renounced. Though politic, in tending to erase even the remembrance of the dethroned Mings, the act was in certain particulars a cruelty to the conservative Chinese. It involved in their eyes degradation to the level of the victorious Tartar; and rather than conform to the order requiring the head to be shaved, many were willing that it should be cut off. Conformity came in time, and the pigtail was an accepted necessity. Changes in costume were also gradually effected. Of these the most marked features are the rolled-up cap or toque and the short coat. To distinguish the nine orders of public officers, the most minute regulations were issued. These affected chiefly the button on the toque, the squares on the front and back of the coat, and the decoration of the belt.

The mandarin vases upon which these costumes are seen, are thick in the paste and frequently uneven on the surface. The hexagonal form, as well as the general features of the decoration, were followed and made familiar to Europeans by the potters of Delft. The decoration is so varied that the group is divided by Jacquemart into six sections. The chief colors are pink, lilac, green, iron red, Indian ink, gold and black. The painting is not executed after the usual Chinese fashion, and the faces in particular are finished with a minute care suggestive of an influence not felt before this period. What concerns us chiefly at present is the reason given by Jacquemart for assigning the entire group to Japanese workmanship. He says:

"The special character of this costume marks out perfectly the group of porcelain upon which it is to be found. It offers, besides, the advantage of rendering incontestable the Japanese origin of these porcelains. The artists of the Celestial Empire have never represented mandarins in their lacquer-work, carved wood or ivories, vases, bronzes, hard or soft stones; no authentic *nien-hao* piece has depicted anything besides the heroes of ancient times and the subjects of ancient history. It was left to neighboring nations, at the same time inquisitive and commercial, to multiply upon the vases this execrated costume, imposed only after a time by force."

This appears rather a slight reason for giving the entire group to Japan. Let us look back to history. From the Wan-li period of the Ming (1619) to the final fall of the dynasty in 1647, or from the irruption of the Tartars in 1616 down to 1662, the Khang-hi period of the Tai-thsings, we know of no porcelain having been made; but in that period, as we have seen, the industry revived. It is then that we again find a director at King-teh-chin, and seventy years later Thang-kong was reviving the bright red and devising the gold ornamentation on black which we find on the mandarin vases. Jacquemart suggests

Fig. 94. — Chinese Ming Vases. White Ground. In medallions, green and brown characters and figures. Darker part red and white, with green flowers. (Geo. R. Hall Coll., Boston Museum of Fine Arts.)

"some years" after 1616 as the date when the Tartar costume was applied to vases. It is probable that it was at least from fifty to seventy years after that date, and that the best specimens belong to the Kien-long period, which began in 1736. After 1662 the imperial factory was apparently as much under the Emperor's control as it had been under the Mings; in which case he could, it is presumed, order such paintings and figures in such costumes as he pleased. We know, further, that in 1698 two foreign artists—an Italian and a Frenchman—

were at the palace giving the Chinese several new ideas about art, especially, as we shall see, about perspective. This may, in part, account for the miniature appearance of the face paintings on the mandarin vases. There is, moreover, no ostensible reason for assigning to the Japanese the origination of a style of decoration at variance with everything else we know of the early traditions of their art, although they followed it afterward. We might rather look to India. We know, at least, that during the Kien-long period the Chinese incurred and acknowledged certain debts to India, and it is in the same country that we find the best miniature painting of the East. Such a supposition would also account for the unusual type presented by some of the mandarins with long pointed beards.

Fig. 95.—Ming Vase. Historical Subject. (J. C. Runkle Coll.)

An apparently fanciful grouping of Chinese porcelain originated with Albert Jacquemart and Edmond Le Blant. They divide it into four families, the Archaic, the Chrysanthemo-Pæonian, the Green, and the Rose: Céladon, Crackle, White, Blue, Turquoise-blue, Violet, Bronze, and Lacquer are classed as exceptional. The Chrysanthemo-Pæonian is so called from the prevalence of chrysanthemums and pæonies on the ground, and the Green and Rose from the predominating colors. A large proportion of the household ornaments of China, garden vases, and table-wares belong to the first of these classes. Blues, red, and gold mingle with each other, and are relieved by green, and sometimes black. Red and blue grounds will be found with designs in white, green, and yellow; or a rich gold will be overspread with green, pale buff, and white; or the ground itself will be white, on which are designs in black, filled with gorgeous flowers. These are the works of artists whose skill and ingenuity are almost as limitless as their fancy. There is no law but the harmony demanded by a florid taste, no aim but effect.

Green was the imperial color under the Ming Dynasty (1368), and the greater portion of the ornamentation of this family has either a religious or a political significance. The bright copper-green lies perfectly transparent upon the pure white paste. We have already seen the eight immortals riding upon clouds, in a piece of blue-and-white, and the design is repeatedly met upon pieces of the Green family. It is here, in short, that we have the best opportunity of studying the religious system and symbols of China. Dragons are represented with diabolical ferocity; cranes, kylins, fong-hoangs, are intermingled with floral designs, in which are asters and other flowers, and insects. On the sacrificial cups of this family, dragons with forked tails climb the handles, or hang head downward from the lip, while a hideous dragon-head is introduced in the sides. From these grotesque and terrible figures we turn to the pieces of a historical character. The scenes depicted are chiefly taken from the early history of China, which was as prolific a source of ideas to the Chinese artist as classical history and legend to the poets of Europe. Vases of this character are also deserving of study, as illustrating to a farther extent than was done in the Introduction that aspect of the potter's art in which it appears as the handmaid and illuminator of history. The Chinese artist is rarely seen to better advantage than when painting vases of this family. With a rich palette comprising the prevailing green, blues of every shade, violet, red, yellow, gold, and black, he produces effects of the most charming beauty. When green is used as a ground color, as in the case of the Kien-long vase referred to (Fig. 93), either it covers the entire surface, or reserves are left for the landscape or trees. In the former case the fruit, flowers, and leaves lie upon the bright-green enamel. To the pieces in which green is mingled with yellow and blue upon a white ground, producing the effect of variegated marble, the Chinese give the name of Ouan-lou-hoang.

Fig. 96.—Green Family. Ming Dynasty. (F. Robinson Coll.)

The Rose family (Fig. 97) is distinguished by the prevalence of the color to which it owes its name — a pale red applied over the glaze. It comprises what may most emphatically be called the decorative porcelain of China. The body is the perfection of Chinese paste, and the decoration partakes to the full of the vast wealth of Chinese color. With regard to form, this family represents the most perfect pieces in the art of China. With the exception of the old white and the modern decorated with blue, the Tho-tai-khi, "porcelain without embryo," or egg-shell, belongs almost exclusively to this family, which is admirably represented in Mr. W. L. Andrews's collection. In such pieces we fully apprehend the beauty of the "rose-back" decoration. The ruby color is laid upon the back of the edge or rim of plates and saucers, and shines through the thin paste with the softness of the pink lining of a shell. It would be impossible to specify all the methods of decorating the egg-shell belonging to the Rose family. We see borders of pink and raised white enamel, others traced as delicately as the finest lace, and still others with reservations filled with bouquets. The decoration sometimes takes the form of exquisite paintings of birds, insects, and flowers; and when scenes with figures are introduced, they are of a totally different character from the religious and historical subjects found in the Green family. They are drawn in part from literature, and in part from the home life of the people. There is in Mr. Avery's collection at the Metropolitan Museum, a plate having a rose border with raised flowers, and other objects in reserved sections. In the centre is a young girl surprised, as she walks the garden at night, by her lover, who, having thrown his shoes in advance, is mounting the wall. M. Jacquemart informs us that the incident is taken from the "Si-siang-ki," or, History of the Pavilion of the West, a lyric drama composed by Wang-chi-fou about

Fig. 97.—Chinese Plate. Rose Family. Sixteenth Century (?). (Mrs. J. V. L. Pruyn Coll.)

A.D. 1110. A frequent design is a home scene, in which a lady sits near a table attended by two children, and with one or two vases standing round. These glimpses of domestic life afford some little insight into the usages of the people, the courtesies of society, and the occupation and pastimes of the young. When the pieces are larger in size, the subjects are taken from court life, and very rarely from religion. When strong contrasts are resorted to—as by coloring the inside green and the outside rose—the effect is no less pleasing. The combinations are almost confusing in their multiplicity, and in the essential differences of their character. One piece may have flowers and various household articles (Fig. 99) upon a white ground, or rose may mingle with turquoise and maroon in the border. Nothing is too bold for the Chinese artist, and no effect appears to be unattainable or untried. He is equally at home painting on white enamel a delicate border, or rivalling the rich hues of a gaudy butterfly in a life-like imitation of the fluttering insect.

Before leaving the Rose family, let us glance at a few of the pieces ascribed to Japan, and which ought to be restored to China. To illustrate the difficulty of assigning them, with positive certainty, to either country, the plate given on page 143 may be referred to (Fig. 100). Mr. Andrews considers his piece Japanese, and his opinion is supported by the fact that other specimens, also claimed for Japan, have the same subject painted in the centre. When a photograph of the piece was submitted to the Hon. Jushie Yoshida Kiyonari, the Japanese Minister at Washington, he replied: "It seems to me certain that the subject, as well as the style of the

Fig. 98.—Chinese Rose Family. (Robert Hoe, Jr., Coll.)

painting, are strictly Chinese; and this much I would say, if I had the piece in my possession, I could not but consider it as a *good Chinese specimen.*"

Fig. 99.—Chinese Bowl. Rich Decoration, chiefly Yellow and Rose. Height, 11 in.; circumference, 5 ft. 8 in. (Mrs. John V. L. Pruyn Coll.)

When Jacquemart tries to find an origin for the Chinese Rose family, he says: "Does it issue from the accidental discovery of the red of Cassius? Is it contemporary with other porcelains? Does it come from a particular centre? We think its creation is to be attributed to the wish of imitating the admirable porcelain of Japan." The same writer, in treating of what he calls "artistic" porcelain of the Japanese Rose family, says: "If we required to seek the cause of these modifications and of the particular style of artistic porcelain, we should find it in a desire of rivalling the Chinese porcelain of the Rose family." In other words, the Japanese Rose suggested the Chinese Rose, and the Chinese Rose suggested the Japanese Rose—a stage at which the discussion becomes neither lucid nor satisfactory.

The circumstances leading to the confounding of Chinese and Japanese porcelain arose chiefly from trade. The Japanese are said to have gone to King-teh-chin, even in early times, to buy porcelain. According to Duhalde, the Chinese repaid the compliment by loading their vessels with Japanese porcelain on returning from that country. This is corroborated by the missionaries at Pekin, who state that the people there highly prized the Japanese porcelain, which was, in consequence, both rare and dear. They even used it in preference to

their own in making presents to the emperor and grandees. De Pere states that when the Emperor wished to send a present of porcelain to Peter the Great, he chose that of Japan, where, says the writer, the people surpass those of China in all the arts and industries. We know, moreover, that the Japanese import Chinese egg-shell for decoration, that the Chinese have borrowed the designs of the Japanese, and that the Japanese have borrowed those of China. The most skilful imitators in the world, living next door to each other, complimented each other's skill by mutual imitation.

There are two chronological points that may help us to throw some light into this confusion, which writers have succeeded in making twice confounded.

There can be no doubt that the porcelain of the Rose family was at its best about the end of the fifteenth century and beginning of the

Fig. 100.—Rose-back Egg-shell. (W. L. Andrews Coll.)

sixteenth. Jacquemart, therefore, argues that the Japanese imitations would date from the first half of the sixteenth century, and the vitreous enamelled pieces would go back, at least, to the fifteenth. He labors under a very serious mistake, which evidently takes its

rise in the assumption that the ware made by the Japanese in the seventh century was translucent pottery, or that Kato-siro-ouye-mon, in the thirteenth century, had acquired the art of making porcelain. We shall handle this subject more in detail when treating of Japan; but meanwhile let it be noted that the Japanese themselves call the thirteenth century ware stone-ware, and that there is no reason for believing that porcelain was made in Japan until near the middle of the sixteenth century, or about the date assigned by Jacquemart to the so-called Japanese imitations of the Rose family of China.

If this be admitted, it must be supposed that Japan began by imitating some of the choicest works of China, and those presenting the greatest difficulty to a beginner not perfectly sure of his practice. The necessary result of this, so far as M. Jacquemart is concerned, would be to transfer what he calls artistic porcelain to China. In any event, it is clear that all representatives of that family which can be ascribed to a date earlier than the latter part of the sixteenth or the beginning of the seventeenth century are Chinese. Many years must have elapsed before the Japanese could, with Shonsui's assistance, attain to such perfection in working a new material that their ware could be mistaken for that of their teachers.

The difficulties of collectors are thus restricted to pieces which are comparatively modern. Nothing is more natural than that, when the manufacture was temporarily paralyzed in China by the disturbances attending the change from the Ming to the Tartar dynasty, for several years prior to 1662 the Japanese should have bestirred themselves to supply the demand created by the regular trade in China. It is of this period, and down to the beginning of the eighteenth century, that the missionaries write when they speak of the demand for Japanese porcelain. It must have been early in the eighteenth century, also, that the imperial present of Japanese porcelain was sent to Russia. Japanese art was rising as that of China declined; and so far from suggesting the Rose decoration to China, the Japanese Rose was merely striving to take its place, when the original was passing away. The Japanese found the Chinese patronage valuable, and therefore they tried to please their customers by perpetuating the styles of decoration with which they were familiar. Their imitative skill makes the task of distinguishing the two fabrics one of considerable

difficulty, even with the limitations in point of time to which we have alluded. The distinctive characteristics of Japanese porcelain will be referred to in their proper place under Japan; but, in the mean time, it is evident that many of the supposed Japanese pieces, with domestic scenes, or with fan-shaped reservations in wide borders of geometrical patterns, and containing brilliantly feathered birds, are Chinese.

We have now glanced at the three leading families, even while disposed to call in question the utility of the arrangement. A classification of the above kind has the one great objection, that the exceptions are so numerous as to leave the rule inapplicable to a vast number of the most interesting specimens. And, further, no perfect arrangement is practicable. The Chinese have always been imitators. The potters and artists of the thirteenth century imitated those of the tenth; those of the fourteenth imitated their predecessors of the thirteenth, and so on. Any attempt at a chronological arrangement, with any pretensions to absolute truth, is, for this and other reasons, out of the question. The classification by families, besides its necessary deficiencies, gives no assistance to one studying and trying to master the principles of Chinese art. To such an one, therefore, the only course is to take every specimen at its artistic worth. He may find a large proportion of table-ware of the Chrysanthemo-pæonian family, but he will also find much that is not of that family. He may find much of the Green family, especially under the Ming Dynasty, with a political or a religious significance, but he will also fail in discovering any such meaning in many of its representatives. He will find chrysanthemums on members of the Green family, and pæonies on members of the Rose. In short, the better plan is, as we have said, to admire what is admirable, and to be too curious neither about chronology nor the relationship of color. Otherwise, in the latter case, he will come upon incongruities. The weak and the beautiful will be placed side by side, as in the human family a dwarf may be full brother to an Adonis.

From what has been said it will be inferred that the Chinese held in the highest admiration the beauty to be found in color alone. In producing it, they stand at the head of the ceramic artists of the world. The old white porcelain—that is, porcelain decorated with white, and not the undecorated ware—is by some considered the most

ancient quality, and is most carefully preserved by the Chinese. It was decorated with designs either graved in the paste or painted in relief, or with figures inserted between two laminæ of paste. In the latter case the design remained invisible until the cup was filled with liquid. Others required to be held up to the light before the design revealed itself. The best white porcelain was made during the Song Dynasty (960–1278). Mention is made of white porcelain manufactured for the Emperor during the Wei Dynasty (A.D. 220–264), and we have already seen that white was the dynastic color of the Thang Dynasty (618–907), but little or nothing is directly known of these fabrics. That of the Song Dynasty was the Ting-yao, already referred to as one of the five great qualities of ancient porcelain. A cup (Fig. 101) of great beauty, very thin and transparent, in the collection of Mr. J. C. Runkle, gives a good idea of the old white. Its purity and brilliancy give a fine effect to the decoration in relief. The latter consists of small sprays of blossoms delicately moulded or carved, and showing through the clear glaze the finest touches of the modeller or carver. This is one of the methods followed in decorating the Ting porcelain with flowers, which were either graved in the paste, applied in relief, or painted. The white of the Yong-lo period (1403–1424) of the Ming Dynasty was also decorated with engravings in the paste. Toward the beginning of the Ming Dynasty, about 1380, a peculiar quality of white was made upon the same principle as the egg-shell, *i. e.*, by grinding down the paste, by which means the piece assumed an unctuous, shining appearance.

Fig. 101.—White Chinese Porcelain, with Blossom in Relief. (J. C. Runkle Coll.)

With the white there naturally falls to be considered the porcelain compared by writers and by the Chinese themselves with jade, the most precious of stones in the eyes of the Orientals. It is likened in the Li-ki, or Book of Rites, to the rainbow solidified and turned into stone; and in another work occurs the passage, "When I meditate on that wise man, his thoughts appear to me like the jade." This applies to the discourse of Confucius. The philosopher's language is quaint

and figurative: "It is not," he says, "because the jade is rare that it is valued, but because from all time the sages have compared virtue to jade. In their eyes the polish and brilliant hues of jade represent virtue and humanity. Its perfect compactness and extreme hardness indicate exactness of statement; its angles or corners, which are not incisive, however sharp they seem, are emblematic of justice; the pearl-like jades suspended from the hat or the girdle, as if falling, represent ceremony and politeness; the pure sound which it emits when struck, and which suddenly stops, figures music; as it is impossible for the ugly shades of color to obscure the handsome ones, or for the fine colors to cover up the poor ones, so loyalty is prefigured; the cracks which exist in the interior of the stone, and can be seen from the outside, are figurative of sincerity; its iridescent lustre, similar to that of the rainbow, is symbolic of the permanent; its wonderful substance, extracted from mountains or from rivers, represents the earth; when cut as knei or chon, without other embellishment, it indicates virtue; and the high value attached to it by the whole world, without exception, is figurative of truth." It is further used throughout Chinese literature as a simile for the highest qualities of virtue and purity.

The stone is called *yu* by the Chinese, and is obtained from Tai-thong, in the province of Chenn-si, and in larger quantities from Khotan, where an entire mountain is said to be composed of it. It has been held in the highest estimation among the Chinese from ancient times, and notwithstanding its extreme hardness, it is made into the most beautiful and curious objects, such as vases, cups, incense-burners, flasks, and even instruments of music.

These facts will enable us to appreciate the comparison so often drawn between porcelain and jade. Thus, the Thang white made by Ho is said to have been "brilliant as jade," and a contemporary was making vases of artificial jade. Again, in the Song Dynasty, a red porcelain was made at Ting-tcheou, decorated with flowers, graved, painted, or in relief, and said to resemble "sculptured red jade." Coming down to the Siouen-te period of the Ming Dynasty (1426–1435), we again meet with cups "as white and brilliant as jade," with their surfaces slightly punctured. These appear to have been imitated in the Wan-li period (1575–1619), when beautiful cups of the whiteness of jade figure in the altar services of the Emperor. The

same description will apply to the porcelain of both periods. The glaze is likened to "a layer of congealed fat," and has a pure ivory-like appearance and a soft unctuous touch, more nearly resembling that of French *pate tendre* than any other modern ware. This feeling is heightened rather than diminished by the slight roughness, or rather, irregularity of the surface, such as might be caused by sinking minute grains in the glaze.

Let us now see how far these comparisons with jade are warranted by the stone itself. Let it first be noted that many travellers bring from Canton a green and dark-green quality of chalcedony, under the impression that the wily merchants have given them genuine jade. There are also certain kinds of felspar, called nephrite, which have been mistakenly called jade. The genuine *yu* varies in color from an ivory white to a dark green. It is very hard, very heavy, and fine in grain. Even after it is polished it has the appearance of wax, and the impression made upon the eye is confirmed by the smooth, greasy touch. The exceptional colors are red, black, orange, citron yellow, turquoise and a deeper blue. The white variety called, *par excellence*, Oriental jade, reflects a pure milky light nearly resembling that of the opal. Japan and India supply a quality of white with the faintest possible tinge of green. Another very beautiful variety is the "imperial jade," or emerald green, which is occasionally found mixed with white, like the colors in agate.

The value attached to jade was so great, that in China a special officer was appointed to take charge of the jade used in the personal decoration of the emperor, who wore several pieces attached to his girdle. Every description of jewel was made of jade, including those worn in the hair.

From these facts, and those previously narrated, it is evident that to compare porcelain with jade is to compliment it in terms beyond which Chinese language cannot go. Nothing higher or more laudatory can be said of it, and we can thus form some idea of the extreme beauty of the almost opalescent white porcelain of the Sioнen-te and Wan-li periods. The admiration of the Chinese for this stone in colors now unknown may possibly also have inspired them to attempt its imitation in many of the finest colors which claim our admiration. The passage quoted from Confucius further suggests that even crackle may

have originated in trying to reproduce in pottery and porcelain the cracked variety of jade.

Equal to the turquoise in purity is the violet obtained from the oxide of manganese. Two artists (father and daughter) named Chou, made very beautiful porcelain of this color during the Song Dynasty. Specimens are now very rare, their brilliancy and richness leading collectors to grasp with avidity at any opportunity of becoming possessors of a good example.

The aubergine, or purple egg-plant violet, was also made under the Song, and is one of the celebrated productions of Kiun, in the province of Ho-nan. This is, however, inferior in beauty to the manganese violet. There is a third tint, of great softness and beauty. The violet is often used in conjunction with turquoise blue, as in a crackle teapot in the Avery collection in the shape of the peach of longevity, in which the body is violet, and the spout and decorating leaves, which are in relief, are in turquoise blue. The colors are also found intermingled in such groups as the Dogs of Fo sporting. Very curious effects are produced by shading the violet on either hand to blue and red. In pieces of this character the blue will be found on the base, and the color changes as it ascends, becoming a rich violet on the body and red on the top. The violet is treated in a manner precisely similar to the turquoise, the pieces being frequently decorated with incised designs.

Fig. 102.—Chinese Five-fingered Rosadon. Blood color, shading from crimson to scarlet. Upper rim, cloudy white. (G. W. Wales Coll., Boston Museum of Fine Arts.)

The shaded violet specimens alluded to remind us of others, in a rich liver-red, where the color becomes paler as it ascends. Thus, in the five-fingered rosadon (Fig. 102) the base is a deep crimson, which turns to scarlet on the body, and finishes on the tips of the fingers in a cloudy white. This color, like the aubergine violet, and a bright red were found upon some of the works made at Kiun in the tenth century; nor must we forget the pieces like "red jade" made at Ting-tcheou

about the same period. It does not appear to have been used at King-teh-chin until the Yong-lo period, early in the fifteenth century. The bright red was reproduced by Thang-kong, the artist already mentioned, in the eighteenth century. It is difficult to follow the Chinese in the handling of colors so nearly akin, and yet differently treated, and producing effects so varied. The liver-red often appears as a true *céladon* upon pieces closely resembling in paste the hard opaque body of the old sea-green. These have rarely any decoration, and resemble in this respect many small objects, such as narrow-necked bottles, to which a bright red lends a color that in vivid brilliancy and clearness involuntarily recalls the comparison of the Ting porcelain with red jade.

Of the yellow called "Imperial," from its being the color adopted by the Tai-thsing Dynasty, little is known. The shades vary from a deep orange to a light straw color, but that called Imperial is said to be the citron yellow. Mr. Marryat says that he has seen genuine specimens in only two collections—the late Mr. Beckford's and the Japan palace at Dresden. He adds, that imitations have been made at Canton and exported. Mr. S. P. Avery, of New York, has a number of pieces of different tints—chrome, citron, lemon, pale and deep yellow, some of which are very curious in both form and decoration. The different shades are also well illustrated in Mr. W. T. Walters's collection.

Fig. 103.—Chinese Yellow; Green Decoration. (Sutton Coll.)

The Chinese have ideas of painting peculiar to themselves. They have little regard for perspective, and in ancient times had none whatever. Even so late as the seventeenth century perspective was at direct variance with the rules guiding their art. We can, for example, see vases—particularly those of the Ming Dynasty—in which the personages in a scene appear to be piled directly one above another, or mount stairs, like upright ladders, in order to reach other personages evidently some distance off, but as much in the foreground of the picture as those nearer at hand. Coming down less than half a cen-

tury later, there is a change. In the Kien-long vase before given the view recedes, and the far-off hills are partially shrouded in shadowy vapor, which adds to the dimness of distance. The perspective is perfect. The change is, no doubt, due to European intercourse. We may, therefore, in cases of doubt derive from this feature a hint of the age of certain pieces. But how account for the older usage? It is said that, when shown the effect of perspective, the Chinese argued against it. There is not, and cannot be, distance on a flat surface, they said; therefore perspective is contrary to nature. They did not see that their art should take cognizance of the delusions of vision, and represent things as they *appear*, not as they *are*. To explain this farther, we have only to look at the Chinese practice in decorating porcelain. The painting is regarded as a purely mechanical process, and the same piece may pass through seventy or eighty different hands, each artist contributing his specialty to the general result, and knowing little or nothing of the subject as a whole. Can we wonder, then, that he did not learn to appreciate perspective, if he painted his figures without any idea of their relation to each other or to the rest of the composition? The most remarkable feature of the case is, that in this prejudice against perspective, and supposed constancy to nature, the Chinese artists take up an attitude altogether different from that in which they usually appear. Everywhere they give a free rein to fancy. They are perfectly unconscious of anomaly, or incongruity in, for instance, painting a stag yellow or a horse green. They paint birds, butterflies, flowers, in hues which nature never wore. Their taste for that harmony of tints which is the perfection of surface decoration demands the abnormal colors, and they never hesitate about using them. Their variety is as wonderful as the wealth of their resources. One may turn

Fig. 104.—Grains of Rice. (S. P. Avery Coll.)

from a vase, representing the exercise of the most fearless and riotous fancy, to another in which the details are as realistic as the lizards of Palissy. Or, again, a vase which looks as though it might have been cut out of a precious stone, with no decoration but its inimitable color, may stand side by side with another covered with flowers so tenderly treated and delicately colored, that one is inclined to pronounce the painstaking Celestial the prince of artists.

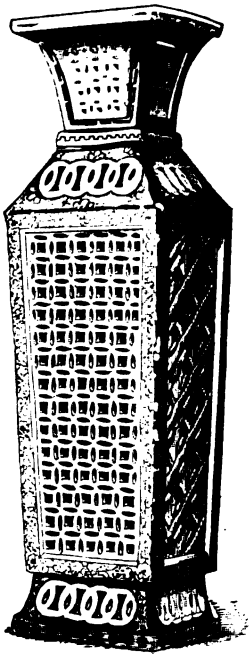


Fig. 105.—Chinese Reticulated Vase. (S. P. Avery Coll., N. Y. Metrop. Museum.)

Conceits in shape or design and victory over technical difficulties are his delight. The *soufflé* decoration is characteristic. The color is inserted in a tube having one end covered with fine gauze, and when blown upon the piece to be decorated, falls in minute air-bells, which break into little circles. Red and blue are thus applied upon a pale grayish-blue, and the effect is beautiful and entirely unique. When, as frequently happens, the bubbles do not break, the result is hardly less attractive, the color running into the ground and giving it the appearance of jasper.

Another method of decorating porcelain, is that called "grains of rice work" (Fig. 104), and is of Persian origin. The design is cut through the thin paste, and on the piece being dipped in the glaze, the latter fills up or covers over the interstices, leaving the design distinctly traceable and perfectly transparent.

Among the curiosities of workmanship the most notable are the reticulated and articulated vases and the "surprise hydraulique," or Cup of Tantalus. The outside of the reticulated vase (Fig. 105) is perforated in different patterns and covers the inner vase without touching it, except at the neck and possibly also the bottom. Ornaments are often attached to the outside of the open-work. More wonderful than the vases are the services of the same kind, in which the outer and inner parts come so closely together as to render the baking of the pieces extremely difficult and uncertain.

The articulated, or jointed, vases represent a similar victory over the difficulties of workmanship. The vase is cut into two sections, which, although separate, cannot be taken apart.

The "Cup of Tantalus" is so constructed that when raised to the lips the expectant drinker finds himself deluged with the contents. It is a Chinese practical joke, played by means of a syphon concealed in the interior of the vessel. Our enumeration may conclude with this specimen of manual dexterity.

To an American or European taking a wide view of the ceramics of the Chinese, while it is evident that they have produced a vast amount of very beautiful work, the question will no doubt present itself, whether they do not sometimes confound ingenuity with genius, and value the mechanical more highly than the artistic. That they were skilful and rejoiced in exercising their skill is evident; but no one can look without admiration upon their exquisite coloring and flower decoration. If one could find anywhere a *complete* collection of Chinese pottery, stoneware, and porcelain, it would be found to contain nearly everything admirable in ceramics, although occasionally hard to appreciate or understand. It would be found to illustrate the entire art history of a people patient, laborious, keen to observe, and swift to imitate, and whom, curiously enough, many of us would rather hear from through the china merchant or collector, than meet in more direct intercourse.

Fig. 106.—Oriental Porcelain. Brought to Albany by Captain Dean about 1777. (Mrs. J. V. L. Pruyn Coll.)

CHAPTER VI.

COREA.

Geographical Position.—Successive Conquests.—Its Independent Art.—Confused Opinions regarding it.—Its Porcelain.—Decoration.

To the north-east of China, across the Yellow Sea, and adjoining the Chinese province of Shengking, lies the peninsula of Corea. Situated between China and Japan, it was alternately under the domination of its more powerful neighbors, and has given, in its ceramic productions, abundant evidences of their sway. At first its works were attributed to Japan, from which country they were carried to Europe. Further inquiry led to the discovery that Corea had an independent artistic existence, and that, while borrowing from either side of it, it imparted to both China and Japan the secrets it had mastered in the art of painting porcelain. The confusion regarding Corean ceramics is entirely due to the commercial intercourse between it and its neighbors, whose styles it adopted and occasionally mingled. Its wares were also sent into their markets. It long ago ceased to produce any kind of porcelain.

Fig. 107.—Old Corean Earthen-ware Five-handled Jar. Yellow on Green. (A. A. Vantine & Co.)

Describing some specimens of Corean porcelain, Julliot, a dealer of the last century, speaks of "the fine grain of its beautiful white paste, the attractive lightness and softness of its dead red, the velvet of its bright-green and dark sky-blue colors." The decoration consists

of conventional forms, either floral or animal. The peacock, pheasant, and dragon are met with. The colors are limited to red, black, gold,

Fig. 108.—Corean Porcelain. (W. L. Andrews Coll.)

and pale shades of green and yellow, and the glaze is less vitreous than either the Japanese or Chinese. The Coreans adapted the decoration to the destination of the work. The pieces with Japanese ornamentation were intended for the markets of Japan, those with Chinese for China. On some of the pieces the styles are mixed, Chinese figures being accompanied by Japanese marks, or *vice versa*. Many of the pieces display very fine workmanship and simplicity of design. Finding their way to Europe in the cargoes of Dutch traders, they were highly valued by collectors, and for a long time served as models to both French and German artists. Their simple style and the chaste employment of a few colors rendered them peculiarly liable to kindle the emulation of unpracticed European decorators.

Fig. 109.—Corean Porcelain; Persian Decoration.

Fig. 110.—Picnic of the Household Gods of Japan.

CHAPTER VII.

JAPAN.

How to Study Japanese Art: Its Origin.—Its Revived Independence.—Nomino-Soukoune.—Shirozayemon.—Raku.—When Porcelain was First Made.—Shonsui.—Form of Government.—The Gods.—Symbols.—"Land of Great Peace."—Foreign Relations.—General Features of Art.—Chinese and Japanese Porcelains.

On coming to the land of Nippon, "source of the sun," known to the outside world as Japan, we must still keep in mind the warning with which we entered China. Japanese art is of Chinese origin, but was modified as it developed. It adapted itself to Japanese tastes,

and to the ideas of a people quick to imitate, but possessing a marked national individuality upon which to modify their imitations. When Chinese art began to fall under foreign influence and to renounce its own national characteristics, the more conservative Japanese offered a greater resistance to the overwhelming influx of ideas from abroad. That which had been the strength of Chinese artists now became their weakness. Foreign models gave them new subjects upon which to exercise their marvellous mechanical skill and imitative dexterity, and their artistic nationality was in a measure lost. The Japanese appeared doomed to a similar fate. Western aggressiveness made its impression, and Europe seemed to have led the extreme East captive. The death of an art distinctively Japanese was predicted by some, and by others it was said to have already taken place. These are the views of extremists. It is just possible that the Japanese derived a hint of what their own imitations were likely to be considered by the more fastidious Europeans, from their own opinion of European imitations of the decorations of China and Japan. For it must not be imagined that the imitation was all perpetrated on one side. It is no unusual thing for the frequenter of dealers' emporiums to find a European vase surmounted by the Dog of Fo, or decorated by birds nowhere visible except to the imagination of a Celestial artist. Art cannot exist in slavery. The European borrowed, and made himself ridiculous; the Japanese imitated, and with servility found degradation. From his temporary aberration it is to be hoped he will thoroughly rouse himself. The contact with Europe which led him to follow after strange gods was not without its lessons. In later times he has shown some capacity for studying and profiting by them. It is the Japanese side of Japanese art that foreigners admire, and not the produce of a foolish combination of the Oriental with the European. It is idle, in view of what may be a lasting return to native models, to bemoan their desertion. The Japanese have already shown a capacity for appreciating their neighbors' faults and their own merits at a proper value. Comparison is leading them to adopt a standard of criticism; and if they will only persist in cherishing their own good traditions, and in giving play to their distinctively national genius, it will certainly be better for their art, and probably for their commerce also. At the Vienna Exhibition they made the discovery that the imitation

of the European had better be abandoned. At Philadelphia they gave proofs of an almost complete emancipation from foreign domination in ceramic art. There is, moreover, abundant reason for the entertainment of such a hope in the evident enlightenment pervading the councils of the Mikado. The following is the language of a Japanese writer, and it shows that the press reflects an intelligence which even that of America or Great Britain cannot afford to contemn: "The Americans and Europeans are enlightened people, and do not without cause call us semi-civilized. But what is the meaning of civilization? It surely is not limited to the possession of fine houses, fine dresses, and to sumptuous living. It is not confined to a flourishing state of its manufactures or machinery. It means an advance in knowledge and politics, a reverence for religion, the proper estimation of good character, and the observance of good customs." The press which can convey such truths as these is not likely to neglect the national evidences of civilization furnished by the arts and manufactures. If it will not allow its readers to look for the signs of civilization upon the outside of foreign institutions, it is as little likely to overlook the best elements at home, whether in religious reverence, good customs, or in art.

To begin with the rise of the art in Japan, although legend would carry us back to the era of Oanamuchi-no-mikoto, and the inventor Oosei-tsumi, long before history begins, we may content ourselves with a less hoary antiquity. It is said that in the sixth century before Christ certain kinds of pottery were ordered by the Emperor Jinmu for religious purposes. The next five hundred years give no additional knowledge, but in B.C. 29 we learn that in the province of Idsoumi there lived a certain worker in stone and pottery called Nomino-Soukoune. The custom at that time was for slaves to be buried with their dead masters, presumably that the latter might have some one to wait upon them in the next world. When Nomino-Soukoune heard of the death of the Empress, he quickly made some images of stone or earthen-ware, and, taking them to the Emperor, induced him to bury them with the Empress as substitutes for her favorite attendants. The cruel rite was thereafter abolished, and the potter and sculptor, as a reward and distinction, was allowed to take for his surname Haji, the artist in clay. Two years later, B.C. 27, a Corean

prince, a son of the King of Sin-sa, landed in "The Land of Great Peace," and settled in the province of Omi, where his followers founded a potters' guild. It is said that both Haji and the visitors from Corea made porcelain. But this is extremely improbable, as it was only about the same period that porcelain was invented in China, and all the evidence goes to show that the knowledge of making a translucent ware passed from China to Japan. It is, therefore, not at all likely that a secret jealously guarded by the Chinese should at once have passed to a neighboring country.

After the above date the accounts open to us become slightly contradictory. A maker of tiles is said to have come from Corea, about the year 590, to Japan, to teach his business; that about sixty years later the experiment of tiling a temple roof was first tried, and that the pagoda of a temple in Yamato was built of brick. These assertions point to a relatively backward state of ceramic art in Japan as compared with China; and if tiles and bricks were still novelties in the former country, we are quite prepared to hear that it was only in the year 724 that the monk or priest Giyoki introduced the potters' wheel. This same individual apparently figures in another account, under the name Gyoguy, as a Corean priest of Buddha, who spread the knowledge of making "porcelain." In the ninth century the number of factories had greatly increased; but native skill does not appear to have developed to any great extent, although an imperial official superintended the trade. Toward the earlier part of the thirteenth century, Kato Shirozayemon, not being content with the rude works he was turning out, called *Koutsi fakata*, pieces with worn orifice, undertook the journey to China, in the company of a priest named Fogen, to acquire, if possible, additional skill. In this he was successful, and on his return settled at Seto, in the province of Owari, now celebrated for its porcelain. Several authors speak of the earlier wares of Japan as porcelain; and Jacquemart says that Kato Shirozayemon returned with *all* the secrets of the art. The question occurs, Is it likely, that, if Japan was at the beginning of our era acquainted to any extent with making porcelain, it would, after experimenting for twelve centuries, be so dependent upon Chinese teaching as to make Kato Shiro's journey necessary? The probability is the other way. More than that, even the last named traveller cannot, without question,

be conceded to have mastered the secret of making porcelain. The Japanese say that he only made stone-ware. Evidence to the same effect is deducible from a Japanese custom. Tea was not introduced from China until the beginning of the thirteenth century, about the time of Kato Shiro's journey. In or about 1450, the Shiogun, or Tycoon, instituted the "Tea-parties" called *Cha-no-yu*. Toward the end of the sixteenth century, under Hide-yoshi, the ceremonial was improved. The guests drank out of a bowl of common pottery. These bowls were sometimes imported from Siam and other countries, and vessels of "raku" were made for the same purpose. This "raku" was a ware introduced by a Corean called Ameya, about the beginning of the sixteenth century. It is said that his descendants of the eleventh generation still pursue the trade in Kioto. Raku is nothing more than a lead-glazed earthen-ware (Fig. 111); and if porcelain was known even at that late date, it is hard to understand why the Tycoon should have honored Ameya with a gold seal for introducing the comparatively coarse raku. It is equally hard to understand why raku should have been preferred to porcelain for this special ceremonial. The fact that raku bowls are still used at the *Cha-no-yu* is probably to be credited to the regard for a custom instituted by a Tycoon.

Fig. 111.—Raku Bowl; Green and Gold. (A. A. Vantine & Co.)

It may, further, be pointed out that the existing samples of the ware made by Giyoki, or Gyoguy, in the seventh or eighth century, and now in the temple of Todaiji, Yamato, are said to be earthen-ware. Upon the whole, it is most probable that the secrets acquired by Kato Shirozayemon did not carry him farther than the making of stone-ware, and that real porcelain was not made in Japan until between the years 1530 and 1540, or about fifty years prior to the date of the discovery of artificial porcelain in Europe. About that time Gorodayu Shonsui, a native of Ise, went to China, and, on returning from a lengthened investigation, settled in Hizen, and instituted the manufacture of porcelain. So thoroughly had he mastered the processes of

China, that he succeeded in producing all the wares which to-day give Hizen its pre-eminence, viz.: Sometsuki, porcelain decorated with blue paintings under the glaze; crackle; céladon ware; red Akai ware; and "Nishikide" porcelain, decorated with vitrifiable colors upon the glaze. Japan incurred, however, still further debts to Corea. In 1592 a number of Corean porcelain makers were taken to Japan, and their descendants still live in Arita. About the same time the Prince of Satsuma invaded Corea, and took several families engaged in the porcelain industry back with him. To these settlers Japan is indebted for its well-known Satsuma ware. Through all these different channels Japan derived its knowledge of ceramic processes from China and Corea, and was enabled not only to equal, but in many respects to surpass, both its teachers.

Fig. 112.—Kiri-mon.

It is unnecessary for our purpose to enter fully into an examination of the government of Japan. The central power is the Mikado, descendant of the gods, political and ecclesiastical head of the government. The Tycoon was the executive head, but was expelled a few years ago. What is here to be chiefly observed is, that in the Mikado centres the loyalty of his people, a loyalty based upon tradition and sanctified by religion. The Mikado's arms are twofold, the (Fig. 112) Kiri-mon—official, and the (Fig. 113) Guik-mon—personal, the former being the flower and leaves of the *Paullownia imperialis*, the latter that of the chrysanthemum. The Tycoon's arms (Fig. 114) consisted of three mallow leaves.

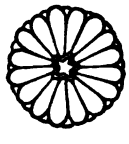


Fig. 113.—Guik-mon.

The religion of Japan, apart from its symbolism, has little appreciable influence upon its pottery, possibly on account of the comparatively late and rapid growth of the ceramic art. The original religion was Kamism or Shintoism, the worship of ancestors. This is the religion upheld by the Mikados. Upon it Buddhism was ingrafted, and supported by the Tycoons. The two harmonized well, thanks to Japanese toleration, but their combination presents many a curious puzzle. The Japanese cosmogony is simple. Heaven and earth were evolved out of chaos, and then the presence of controlling power being necessary, the gods came. At

Fig. 114.—Arms of the Tycoon.

first there were only three, but afterward seven generations of gods and goddesses succeeded each other, and from the last pair of these came Sin-mon, the founder of Japan. The seven household gods concern us more in looking at Japanese ceramics. These represent the physical wants of the people, and correspond with the Chinese god of longevity and his compeers. The first, Ben-zai-ten-njo, or Benten, is the Madonna of Japan, the ideal matron; Quamon, queen of heaven, appears to be the ideal of happiness; Yebis is a jovial marine god, the food provider, and is generally represented with long legs, claws, drapery of marine origin, and riding on a dolphin. Hotei, a portly, complacent deity, is the very picture and god of contentment. A totally different being, short, thick, and almost lost in his clothes and under the burden of his wealth, is Daikoku, the god of riches. Shiou-ro, with long beard, placid face, and towering cranium, is the god of longevity. He leans upon a staff, and is attended by either a tortoise or a stork.

Fig. 115. — Japanese Porcelain Bowl. Diameter, 8 ft. 7 in. (Corcoran Art Gallery.)

He is evidently a relative of the Chinese Cheou-lao. Tossi-toku, with staff and fawn, is the dispenser of knowledge. The last and least esteemed of the seven is the strong, armor-clad Bis-ja-mon, god of glory. Who shall say that there is not philosophy in a religion which thus holds up military glory almost to contempt, and discriminates between riches and contentment? Besides the gods here mentioned there is a host of demons which need not be enumerated, and which, with the household deities, are met with under the most fantastic forms and in the most ridiculous situations, for, according to Japanese ideas, ridicule did not necessarily involve impiety.

The symbols of Japan are nearly all taken from China. The imperial dragon, though having only three claws, is closely allied to the four and five clawed dragons of China. The Ky-lin and Dog of Fo both reappear, and the Fong-hoang, or Foo, again presents itself with added elegance of form and supreme beauty of plumage. Another bird, resembling an eagle, deserves its title of imperial from its majesty of gait and expression, and seems in perfect keeping with its accompanying noble emblems. The sacred tortoise has a long feathery and fan-like tail, and appears in numberless compositions. The crane, turtle, pine, and bamboo are the emblems of longevity.

In view of all that Japan owes to China and Corea—a great part of its religion, its knowledge of art processes, and its symbols, one would expect to find little that is original in its ceramics. There is, on the other hand, often visible a decided individuality and independence. Japan absorbed and transmuted, while apparently engrossed in copying. The process of assimilation, of bringing the foreign suggestion into subjection to native principles, took time; but even while Japan was in its pupilage, its national character was asserting itself. Its history and position show alike the favorable conditions under which its art grew up. After the aboriginal Ainos had been once subdued by their Asiatic conquerors, history substantiates the claim of Japan to the title of "The Land of Great Peace." It is true that revolution has of late years changed the form of government by the removal of the Tycoon; but from the beginning of the historical period, B.C. 660, to the civil wars which preceded the establishment of the Tycoons nearly three hundred years ago, there was no war of any consequence. After that event, and down to the return of the executive authority into the hands of the Mikado, there was another long peace. The Japanese, be it again observed, cared little for their god of glory, Bis-ja-mon. Isolation and freedom from the disturbing consequences of war gave the Japanese an opportunity of cultivating the arts of peace with a constantly increasing show of independence, even when the art was based upon a foreign foundation.

In viewing their earliest ceramic productions, there is some difficulty in distinguishing them from those of China and Corea, and this difficulty is increased when we find upon their vases scenes from the court life of China, and a great deal of borrowed ornamentation. In

both countries it is said that the ceramic art rose to its highest point in the sixteenth century, and then, we are told, declined. This date may, in the case of Japan, be safely advanced to the seventeenth or eighteenth century. Japan was even then not independent of its teachers, and suffered from the influences adverse to art which affected them. The Portuguese were the first nation to trade with Japan, and were expelled in 1637. The tolerant Japanese, who were willing to make room for any religion containing the seeds of good, could brook neither intolerance nor interference with their civil government. Portuguese intrigue accordingly led to expulsion and the massacre of forty thousand converts to Christianity.

Specimens of "Christian" porcelain, made apparently by the Chinese for the persecuted of Japan, are still in existence, and may be seen in many American collections. After the Portuguese came the Dutch. Had the latter restricted themselves to trading in porcelain, it would have been better for Japanese art. Instead of doing so, they tried to imitate the native wares, and, which was far worse, commissioned the native artists to adopt European styles and to attempt to gratify the whims of European taste and fashion. We cannot wonder that art declined, but are rather led to be surprised that the decline was not more speedy and permanent.

The points of difference between the porcelain of China and Japan may be briefly stated after the general features of Japanese art have been examined. It is to the American a peculiar art. It does not touch our admiration like the Greek for the truthful working out of its ideal forms, nor for the ideals themselves. It does not imbue us with a sense of the mysterious like that of Egypt. We can all admire its wonderful coloring and its perfection of finish; but besides these there is a fascination in the exuberant fancy, richness of invention, and happy blending of tints. The Japanese are true to nature, far more so than the Chinese; but they do not copy nature in every detail. In their best work we will often find that, with a peculiar delicacy, the artist merely indicates what an American or European artist would feel it incumbent upon him to represent. The former holds our attention by leaving it to the imagination to make his work complete. This will suggest what is actually the case—that, as a rule, form is secondary to color.

Japanese porcelain and pottery differ from those of China in the following general respects: perspective is permissible in painting; as a rule, there is greater simplicity of design, and the ornamentation is more chaste and less profuse; and, as already noticed, nature is more closely followed. To explain the greater purity and refinement of Japanese art, there are three points to be noticed. While the Chinese degraded art by degrading the artists, the best and noblest Japanese were themselves artists. Princes are said to have engaged in lacquer-work. The Chinese lowered ceramic art into a merely mechanical pursuit, by dividing the different parts of the ornamentation among several workmen. Artistic conception was almost lost sight of where mechanical finish was thus painfully sought. The Japanese give us the creations of individual men, who bring their own marvellous industrial skill to the expression of their own ideas. The third advantage which they possessed was that already incidentally referred to, viz., the prevalence of hereditary occupations. It has been seen that descendants, of the eleventh generation, of Coreans who settled in Japan as workers in stone-ware are now engaged in the same pursuit. The transmission of technical knowledge was thus amply provided for.

Possessing such advantages and tendencies, the Japanese surpassed the Chinese in several respects. That they do so to-day, the Centennial Exhibition, even making a due allowance for the superior organization of the Japanese section as a government representation, placed beyond all question or cavil. This truth is one to which ceramists, undeceived by the exaltation of China and the treatment of Japan as a mere offshoot, should not be strangers. In lacquer-work the Japanese have always been superior, and at the Exhibition one of the best specimens in the Chinese section was from Japan. The lacquer was so laid on that the ornamentation on the underlying porcelain disclosed itself, and animal forms in red and gold decorated the lacquer. Similar acknowledgments of the excellence of Japanese porcelain have been otherwise made. The Chinese sometimes copy Japanese decoration. Further evidence is not wanting, and has been referred to under China, of the rarity and high value of Japanese porcelain in China.

In any event, the time for servile imitation has passed with all that was worth imitating. Instead of devoting themselves, as the Chinese

have done for two hundred years, to vain attempts at rivalling the attainments of their ancestors, the Japanese have shown an inclination to return to their old and renounced standards as bases from which to reach a new originality. They are, in one word, progressive in the best sense. Instead of nineteenth century representations of the works of the seventeenth, it may reasonably be hoped that the present day will disclose an art at once national and its own.

POTTERY.

Geographical Distribution.—Classification.—Satsuma.—Difficult Ware.—Saki Cups.—Imitations of Satsuma.—Kioto.—Awata.—Awadji.—Banko.—Kiusiu.—Karatsu.—Suma.

The ceramic industry of Japan is chiefly, if not entirely, confined to the southern half of the empire. A line drawn from Tokio (Yeddo) to Kaga is its northern limit, and between that line and Satsuma, one of the two most southerly provinces of the island of Kiusiu, the manufacture is pretty evenly distributed. The great centres are Kiusiu, in which are Hizen and Satsuma; Kioto, round which are clustered the prominent names of Awadji, Hiogo, Idsumi, and Nara; Owari and Mino; Kaga, including Kutani, Yamashiro, and in the adjoining province of Echizen, the village of Ota; and, lastly, Tokio, including Yokohama. From these five centres come nearly all the wares which have of late years become so familiar in the American markets. These wares are now known exclusively by the name of the place of manufacture or the inventor. Whatever rule may have been followed in the past, it is now therefore evident, that hereafter Japanese pottery and porcelain must be treated after a method precisely similar to that followed in discussing the wares of France or of England, where, instead of families, we have Sèvres, Limoges, Palissy, Worcester, Derby, and Wedgwood.

Fig. 116.—Satsuma Vase. Dragon in Red and Gold. Height, 16¼ in. (Boston Museum of Fine Arts.)

The Japanese have an endless variety of earthen-ware made for household use. Of this class some pieces are left unglazed, and others have a very fusible plumbeous glaze, under which painted decorations are sometimes to be seen. Of their semi-porcellaneous, highly refractory potteries, the two best known in America are the Satsuma and Awata. The former (Fig. 116) is so called from the province of that name, in the south of the island of Kiusiu, where it has been made at or near Kagoshima for nearly three hundred years. The latter is made in one of the suburbs of Kioto, in Central Japan. The clay is kaolinic, and the glaze felspathic, but not of the purity of porcelain; and, as a consequence, they do not fuse to the same extent. The body and glaze not being perfectly homogeneous, the latter presents a fine network of cracks. The beautiful and soft buff color of the Satsuma ware is its first characteristic. The ornamentation generally consists of birds and flowers delicately outlined and colored. The chrysanthemum, the pæonia, pheasants, and peacocks are especially abundant. This ware is extensively used in the making of tea-sets, charming alike in form and color. So light are the pieces that it is difficult to persuade one's self that they are not porcelain. The shapes are quaint, and suggestive of flower-cups and leaves. One style of decoration may be taken as typical. The delicious creamy buff paste, covered with crackle glaze, is sprinkled with gold, after a manner in which the Japanese have no equals. On this rich but delicate ground are many-colored flowers, birds, or insects, which harmonize admirably with the shape of the cups. In America so much beauty could be possessed only by the rich. In Japan almost any one may be its owner. A feature distinctive of

Fig. 117.—Satsuma Vase. (A. Belmont Coll.)

Japanese art is, that it attempts to reach every grade, high as well as low; and that art, being valued for its own sake, and not purely for its commercial value, is brought to the embellishment of the lowly object as well as of the intrinsically rich.

Fig. 118.—Satsuma Vase. Very Fine Crackle. Decoration: leaves brown, veined with gold. Height, 15 in. (R. H. Pruyn Coll.)

Another product of Satsuma is called "difficult ware," from the extreme nicety of the operation performed in making it. In this the body is coarser than in that last mentioned. The ground is similarly prepared, and upon it are laid in relief flowers and birds of fine porcellaneous paste. The technical difficulties attending the production of such ware are obvious. By what ingenuity does the Japanese artist overcome the difference between decorating material and body? A precisely similar style of decoration is employed on many household vessels of earthen-ware or majolica. In these very fine effects are secured by the choice of a sombre ground, from which the porcelain flowers and animals stand out in clear and bold relief. The best Satsuma ware and crackle are perfect marvels of color. The decoration bears a general resemblance to that already described, but is finer. The cracks are scarcely visible, the gold is more cloud-like and fleeting, and the floral ornamentation is more tropically luxuriant. In the higher qualities of crackle, the paste and glaze differ widely in composition, in order that deeper and more distinct cracks may be produced; and tangled in the web are wreaths of green, purple, crimson, and blue flowers mingled with gold. A totally different style of decoration is seen on many cylindrical vases, and shows that the Japanese artists have a clear perception of the subtle harmony existing between form and ornament. In these, to be in sympathy with the simple shape, the designs are bolder, and the colors are laid on with a freer hand.

The Satsuma paste varies in tint from buff to a cold and dark shade of brown; but the decoration of the latter is, as a rule, decidedly inferior. The shapes are manifold, and are generally characterized by simplicity and elegance. When the potter turns to intricate designs, his skill in manipulating the clay seems almost boundless. This feature is more remarkable in the older pieces than in those of more recent date, and is well illustrated in the vase on page 167 (Fig. 117), where a series of thin loose rings gives the piece an appearance altogether unique. The vase from Mr. Robert H. Pruyn's collection (Fig. 118) is presumably from the Prince's workshop, and is an excellent example of the refinement of Japanese taste. Full effect is given to the admirable workmanship displayed in the basket-work moulding, which is relieved, but not concealed, by the ivy decoration. A more prevalent style is exemplified by the vase (Fig. 119) in the Boston Museum of Fine Arts. The flowers appear to grow from the base to the neck, where a single flower and a few green leaves are left to finish the bouquet. The piece is a rare specimen both in regard to fineness of paste and the delicate treatment of the flower decoration. It belongs to the large class which is illustrative of the Japanese preference of flowers before figures, and of the careful fidelity with which the former are treated. They lead one to think that in the Japanese workshop the "Feast of Flowers" knew no end.

Fig. 119. — Satsuma Vase. Height, 7¼ in. (J. W. Paige Coll., Boston Museum of Fine Arts.)

A singular example of Satsuma ware — so singular both in body and ornamentation as almost inevitably to suggest a doubt of its coming from the same workshop — is the Sutton vase (Fig. 120). The decoration is in high relief, and stands out strongly against the brown ground. There are many fine examples of designs executed in relief. These assume the forms of turtles, fishes, frogs, lizards, and crabs, carefully modelled and truthfully colored. On pieces of a religious character the gods of the Japanese pantheon

are moulded in bold relief. The same idea is occasionally carried out to a fuller extent by moulding the piece itself after a natural form. Thus we find trays shaped like leaves, cups like lotus leaves, teapots like melons, and one remarkable specimen in the form of an elephant, with a saddle brilliantly painted on grounds of red and gold.

The religious vessels are very often elaborately decorated. Incense jars have figures of the gods; the turtle, symbolical of longevity; and medallions of flowers surrounded by borders of green, crimson, and gold; or we may find the gods Shiou-ro and Tossi-toku, of longevity and wisdom, in a landscape; or combats between gods and demons; or a mixed assemblage of priests and gods. When the figures of the gods are painted on the inside, the value of the piece may be estimated by the delicacy of the figure-painting. Hotei, the god of contentment, and Yebis, are thus figured on the inside of bowls; and sometimes there are priests and women; or gods and dragons may be seen on the inside and priests on the outside. Satsuma ware is also found in round, oval, or leaf-like plaques, on which are religious and other subjects.

Fig. 120.—Satsuma Faience. Buff and Gold; Decoration in Relief. (J. F. Sutton Coll.)

More frequently in Kaga or Kutani porcelain, but sometimes also in Satsuma ware, will be found what are called "Saki" cups. Saki, or Sake, is the chief alcoholic drink of Japan, and is made from rice. It is drunk hot at meals from the cups known by its name. The size of these pieces precludes excessive decoration, and the artist concentrates his efforts upon fineness of execution and finish.

Satsuma ware is imitated at Kioto, Yokohama, and elsewhere; and there is little doubt that pieces from these and other centres make their appearance in America under the adopted and better known name. There are no safeguards against deception but the character of the dealer and the good taste and judgment of the collector.

The Kioto pottery is scarcely inferior to the Satsuma. In the specimen given below (Fig. 122) the creamy ground is covered with a kaleidoscopic mingling of colors —yellow and purple chrysanthemums and cloudy masses of gold —and in the foreground is a cock with brilliant plumage. Other specimens are seen in Figs. 121 and 123.

Fig. 121.—Kioto Faience Censer. (A. A. Vantine & Co.)

Awata ware is made at Kioto, and is of more recent origin than the Satsuma, from which it differs chiefly in the more pronounced tint of its prevailing yellow color. From the latter characteristic it has been called "egg pottery." In the older pieces the style of decoration is entirely different from the Satsuma. The colors used were few in number and neutral in tone. More recently the artists of Kioto have resorted to imitations of Satsuma and porcelain decorations, and of European styles.

Fig. 122.—Kioto Vase. Very Brilliant Colors. Height, 18 in. (Boston Museum of Fine Arts.)

Awadji, an island lying between Shikoku and Hiogo on the main-land, produces a ware closely allied to the Satsuma. The glaze is similar, and the kaolinic paste is made from ground granite found on the island. The body-tint is an extremely soft yellow, the cracks are usually fine, and the painting, outlined in black, is decided in character. From the same place comes a strong stone-ware, either with a glaze containing oxide of copper or covered with a slip. The cracks are few in number, and the prevailing colors are green and russet.

The above names, it will be observed, are taken from the places of manufacture. The Banko-yaki is so called from the in-

ventor, and is made in the province of Ise. The paste is a strong, tough brown clay, on the unglazed surface of which enamel painting is laid. Very curious tea-sets, wonderfully light and thin, considering the quality of the paste, are made of this material. They are finished by hand, and the marks of the potter's fingers are distinctly visible on the clay. These sets are favorites with the tea-drinkers of Japan. The white clay of Ise is also used for pieces which come in biscuit. When mingled with brown clay, the result is a peculiar mottled ware which has been extensively made within the past few years. The Banko tea-sets are sometimes moulded into imitations of the lotus leaf.

Fig. 123.—Kioto Faience. Brown, Red, and Green on Buff. (J. F. Sutton Coll.)

The ware called "Kiusiu" takes its name from the island already mentioned, but the exact place of its manufacture is not more specifically stated. The illustration (Fig. 124) exemplifies a large division of this pottery, which has designs more or less intricate graved in the paste, and painted purple or plum and turquoise blue. Some of the finer pieces have floral and emblematic incisions, and upon the mingled blue and plum are chrysanthemums and vines in lacquer.

Fig. 124.—Kiusiu Earthenware. Blue on Purple. Height, 15 in. (A. A. Vantine & Co.)

Karatsu is a town in the province of Hizen, and gives its name to a buff ware, somewhat resembling in appearance the darker qualities of Satsuma. It is finely crackled, and the designs are exceedingly varied. The tenacity of the fine paste is exemplified in the reticulated vase (Fig. 125), in which frequent changes in the pattern lighten, by variety, the sombre character of the piece. It will be observed that the inner surface is also decorated, and we are thus

furnished with another of the frequently recurring evidences of inexhaustible Oriental patience. All the examples of this ware that we have seen are covered with very minute cracks like those overspreading the Satsuma. The paintings on tea-jars and incense-pots consist usually of flowers, insects, vines, or bamboos sometimes arranged in panels or medallions.

Fig. 125.—Karatsu Vase. Reticulated Buff Crackle. (J. F. Sutton Coll.)

It is unnecessary to do more than enumerate the wares of Suma, or Soma, Nara, Ota, Idsumi, and Kaga, or Kutani, some of which approach translucent porcelain so nearly as to be entitled to be classed with it. The specimen (Fig. 126) is chosen for illustration for a very simple reason. The body is a common coarse earthen-ware, manipulated with very moderate skill, and the color is in no respect remarkable. But in the disposal of the grape-vine decoration, and the drawing and attitude of the bird, there is nothing more simple and tasteful to be seen on the finest Hizen porcelain. In spite of the humble material, the artist compels our admiration. It is the same wherever we turn. Art is for all, the lowly as well as the rich, and embellishes every object, the humble as well as the most costly.

Fig. 126.—Suma Earthen-ware. Blue Slate Color; Black, Red, and Reddish-brown Decoration. (A. A. Vantine & Co.)

There are simple vessels, teapots, and cups of clay, thin as Banko ware, and left unglazed, which for very oddity and perfection of workmanship are worthy of a place in any collection. Mr. Sutton has two pieces of this character. One is a

teapot shaped like a partially folded leaf, having its sides drawn together to form the spout. The lid is like an elongated shell, and is thin and light as a leaf. The other is also a teapot, and resembles a transverse section of the trunk of a tree. In such cases the artist is lost sight of in the workman. The pieces have neither grace of form nor beauty of color, but they attract us by the evidences they present of human skill contending with difficulty for the mere satisfaction of overcoming it. They are triumphs of dexterity and curiosities of design, and, though rare, are thoroughly representative of a large section of Japanese ceramic art. In its simplest as well as its most beautiful forms, nature is the promptress of the Japanese artist (Fig. 127). We see it in such works as those last described equally with the gorgeous flowers and drooping vine, and in it have the key to the infinite variety of the art of Japan.

Fig. 127.—Satsuma Vase. Decoration, Green and Red. Height, 13 in. (Robert H. Pruyn Coll.)

PORCELAIN.

Leading Differences between Japanese and Chinese.—Sometsuki Blue.—Ware for Export.—Gosai, or Nishikide.—Arita, or Hizen.—Families.—Decoration.—Modern Hizen.—Seidji.—Kioto.—Eraku.—Kaga.—Portraiture.—Owari.—Lacquer.—Cloisonné.—Rose Family.—Early Styles: Indian: Dutch Designs.—General Characteristics of Japanese Art.

In porcelain, even to a more marked degree than in pottery, the peculiarities of Japanese art are noticeable. It brings before us, in their greatest perfection, the careful attention to finish, the harmonizing of the most minute detail with the general design, the boundless variety of form, and the general tendency to subordinate the latter to ornamentation and color. The porcelain is less capable of resisting heat than that of the Chinese.

The leading differences between the porcelains of the two countries are that the Japanese is of a purer white and finer quality, that

its glaze has a bluish tint, that the Japanese forms are usually better, and that the extravagancies of Chinese decoration are toned down. The chief kinds of porcelain are the Hizen (also called Imari and Arita), the Owari, Kioto, Mino, and Kaga. That made at all these places, except Kaga, belongs chiefly to the kind called Blue Sometsuki, in which the body is decorated before glazing with painting in blue derived from cobalt. This is the leading ware for home consumption. Two of the largest and finest specimens that ever reached America were the immense vases and basins sent to the Centennial Exhibition. Reference has been made, under China, to the difference

Fig. 128.—Japanese Porcelain Plaque. (W. L. Andrews Coll.)

between the blue-and-white of Nankin and that of Japan, viz., that the white of the latter is purer and the blue less transparent. This may be accounted for in part by the inferiority of the cobaltiferous ore of Japan, a circumstance which has led to the importation of Chinese material, and in part by the preparation of the paste. After

being thrown or moulded, dried and turned, the piece is covered with pure white clay, and then fired. The blue is afterward laid upon the clay coating, and the piece is then glazed and fired a second time. By the use of the *engobe*, the brilliancy of the blue is thought to be enhanced, and the purity of the white must certainly be heightened. The glaze is always felspathic, and is said to be less vitreous than that of China. Like the Chinese, who made a specific ware for the "Sea-devils"—a euphonious title under which all Europeans were classed—the Japanese export from Hizen the same kind of porcelain as that above described, but decorated with bright enamel colors on the glaze, and specially designed for the foreign trade. The preparation and application of the enamels have been described elsewhere. Paintings in relief are produced by first laying on the parts to be colored a white enamel of powdered glass and stone, and white-lead. This ware, once called "Gosai," and now "Nishikide," is made at Arita, and was taken to Nagasaki, and thence to the island of Desima, at the time when the old Dutch traders had their settlement there. It is, therefore, this porcelain that the Dutch first carried to Europe. That we may have a clear view of the early condition of the industry, we must bear in mind that it was in Hizen Shonsui put in practice the knowledge he had acquired in China. It may, therefore, be expected that the older specimens will show signs of Chinese teaching. That such is the case may be inferred from the grouping usually resorted to in dividing Japanese porcelain into Chrysanthemo-Pæonian and Rose families.

The place of manufacture of many of the pieces belonging to the first of these families is authenticated by the peculiar Japanese symbols, such as the Imperial bird, the *guikmon*, the Imperial three-clawed dragon, the crane, bamboo, and other emblems of longevity; and also occasionally by the pieces being decorated with legendary subjects. One of the latter is decorated in part with a water-fall, and a carp leaping upward. The latter is a symbol borrowed from China. Mr. Griffis says of it: "The koi (carp) leaping the water-fall is a symbol of aspiration and ambition, and an augury of renown. The origin of the symbol is Chinese. In an old book it is said that the sturgeon of the Yellow River make an ascent of the stream in the third moon of each year, when those which succeed in passing above the rapids

of the Lung Meu become transformed into (white) dragons." The same writer relates that when Kiyomori was on his way to view Kumano water-fall, a carp leaped out of the river upon the deck of his state barge, and gave rise to much rejoicing as an auspicious omen.

Fig. 129.—Old Imari Porcelain. (A. A. Vantine & Co.)

The paste and glaze of the older examples of Hizen are inferior to the Chinese, the former being thick and comparatively coarse, as we find it in the accompanying specimen (Fig. 129). Such are the early vases of the Chrysanthemo-Pæonian family. They represent, apparently, the struggles of workmen attempting to apply recently acquired knowledge to native material: a further proof that when the Dutch opened their trade with Japan the porcelain industry was still in its infancy. That the manufacture improved with great rapidity is evident from such examples as the dish (Fig. 130), an admirable specimen of early Gosai, or Nishikide. Only five colors were employed in its decoration: black for the outlines; red, green, gold, and blue, as we find them on Mr. Pruyn's dish, where the design in green and gold is laid upon a ground of red and blue.

Fig. 130.—Japanese Dish. Ground, Red and Blue; Figures, Green and Gold. Diameter, 11 in. (Robert H. Pruyn Coll.)

In modern times the porcelain of Hizen includes some of the best coming from Japan. To it we owe those exquisite specimens of a double art, trays and vessels of porcelain, decorated with flowers and birds in raised enamels, encased in a cover of bamboo wicker-work.

The rich beauty of the coloring of Hizen porcelain is indescribable. One vase has birds and flowers freely disposed over its surface; another has reserved panels with birds and chrysanthemums in relief, and a third has birds and flowers on a ground of gold, and set in an open border. The desire to imitate

Fig. 131.—Hizen Vase. Blue Ground; White Decoration. Height, 18¼ in. (Mrs. J. V. L. Pruyn Coll.)

objects in shape as well as color animates the porcelain makers of Hizen equally with the potters of Satsuma. We find bowls in the form of chrysanthemums, with the turtle, emblem of longevity, on the cover. One of these is decorated with stripes of blue, red, green, and yellow, and the favorite flowers and insects in enamel colors. The rare and very handsome example of the striped style of decoration here given (Fig. 131) was obtained at the Lyons sale, and is presumed to be Hizen. The ground is a rich, clear blue, and the cranes, foam of the sea, and stripes on the neck are in white relief. One is anxious to find the sentiment embodied in such admirable work; and it is possible that the piece may originally have been meant to convey a wish for long life—by its symbol, the crane—amidst the mutations of life, symbolized by the foam of the ever-changing sea.

Fig. 132.—Japanese Porcelain Vase. (H. C. Gibson Coll.)

Another piece, about which nothing certain is known, is the vase (Fig. 132) from Mr. Gibson's collection. It is a marvel of patient and skilful labor, and tells its story, no doubt, if the means of reading it were only within reach. The lattice of gold hangs as fine as gossamer over the figures, with sufficient transparency to leave the inside scene distinctly visible.

To return to the modern pieces known to be Hizen, the bowls above mentioned are supplemented by others shaped like pomegranates, and profusely decorated, sometimes both inside and outside, with flowers, insignia, and the imperial bird, or with vines and flowers in gold and crimson. All

family relationship is forgotten in the boundless variety of the designs. A charming illustration of the refined taste of the porcelain manufacturers of Arita was shown at the Centennial Exhibition. It consisted of a set of three small oviform vases of a very delicate blue tint, and having white dragons for handles.

The ware called Seidji is the Japanese *céladon*, and is decorated after the style seen in China, *i. e.*, with designs graved in the paste. It has been made in Hizen ever since Shonsui settled in that province (A.D. 1580).

Leaving Arita, in the mean time, there are several other centres demanding notice. The blue Sometsuki is also made in Owari and Kioto. With the latter is associated a distinctive ware called Eraku, from its inventor, in which gold decoration is laid upon a red ground. When Indian-ink and the colors of the Nishikide are found on Kioto porcelain, it resembles very closely that of Hizen. Green, blue, and gold are frequently mingled. As in other Japanese centres, the tendency to seek nature, either for suggestion or imitation, manifests itself at Kioto. Vases with crabs and shells, moulded and painted from nature, remind us of the "Palissy pottery, with raised fishes and fruit," of which Sir R. Alcock speaks.

Fig. 133.—Kaga Ware. Decoration, Red and Gold. (A. A. Vantine & Co.)

Somewhat similar to Eraku is the porcelain of Kaga. One quality (Fig. 133) of the latter has gold decorations on red or black grounds, mingled with flowers or birds traced either in red or black, according to the ground. On another quality the painting outlined in black is executed in enamel colors, resembling those already described as in use at Arita. The result is exceedingly rich. One specimen is described by Mr. Jarves ("Art of Japan"), and is in the possession of Mr. Sutton, of New York. On the outside are two men holding a

conversation on the bank of a stream. In the inside, in Chinese characters—adopted by the Japanese in the third century—of the minutest size, is the following explanatory legend: "Kutzen had already taken his leave, and was wandering by the side of the river, in a sorrowful and dejected manner, when he met a fisherman, who said, 'Why do you come here? You are the chief retainer of King Sâ.' Then Kutzen replied, 'The men of the world are all alike, and as impure water, but I am pure; they are all drunk, but I am sober; therefore I come here.' Then the fisherman said, 'An ancient sage has said, that if we mix and associate with the men of the world, we shall become as impure as they are; if they are all drunk, we shall be drunk also, and drink the sediment of their drink; if they are dirty, we shall be dirty also, and stir up the mud.' Then Kutzen replied, 'It is an ancient saying, that when we dress our hair, we necessarily rub the dust off our cap; when we bathe in hot water, we necessarily shake the dust off our clothes; thus, when our hearts become pure, we shake off all defilement. I would rather throw myself into the river, and become food for the fishes, than to be defiled by thee!' Then the fisherman went away smiling, and, striking the gunwale of his boat, sang: 'So, when the waters of Soro are clean, I will wash my cap-strings; when the waters of Soro are dirty, I will wash my feet.'"

Another cup, also in Mr. Sutton's collection, of a somewhat similar shape, *i. e.*, narrow and high, has the inside almost entirely covered with these minute characters. It is well-nigh impossible to trace with the eye those near the bottom, and an estimate can thus be made of the difficulty of forming them with the brush.

The decoration particularly characteristic of Kaga porcelain is the multiplication of portraits. Occasionally we find medallions of flowers set in colored borders, or fishes on the inside of both vessel and cover, and vines and flowers on the outside; but the style most intimately associated with Kaga is the marvellously minute and highly finished painting of a crowd of faces. We have seen whole tea-sets thus covered with what were said to be portraits of the poets of the Mikado's empire, executed with the most perfect finish upon a ground of pure gold. On the inside of one shallow dish there were no fewer than sixty-five portraits, on a ground of gold, and on the outside was a landscape set in flowers. A plaque of the same ware had eighty

figures, on a gold ground, surrounding a medallion with flying birds. The porcelain chosen for these curious and wonderful works is generally thick and of inferior quality, but the effect of the red and gold grounds, occasionally alternated with blue, is unquestionably rich.

At Owari, the favorite colors would appear to be deep-blue and white, the former being generally used as a ground, the latter for ornamentation. The seat of the manufacture is Seto, a village near Nagoya, the chief town of the province of Owari. Many of the heavy vessels now manufactured at Seto have no artistic quality to recommend them, but smaller specimens of great beauty may occasionally be met with. A small vase, for example, has the base of deep blue, the body of a paler shade, and the upper part deepening into a purplish tint. In some cases the white decoration is in relief.

Fig. 134.—Owari Porcelain, decorated at Yeddo. (Yoshida Kiyonari Coll.)

The porcelain and pottery reaching us from Yeddo (Fig. 134), or Tokio, is largely composed of the different provincial products. They are taken to that city to be decorated, and it is almost impossible in the great majority of cases to specify the place of manufacture.

Two remarkable methods of decorating porcelain bring us to lacquer-work and cloisonné enamel. Lacquer is a sap or gum drawn by tapping from the *Rhus vernicifera*, a tree cultivated for this special purpose throughout the entire southern half of Japan. After settling, the lacquer is mixed with certain coloring and hardening powders, and strained. The black quality is made by exposing the viscous gum for a few days to the open air, and then diluting it with water which has been for some time mixed with iron filings. The greater part of the water is then allowed to evaporate, and the process having been completed, the lacquer is ready for use. The ornamentation consists either of mother-of-pearl, ivory, or metal

Fig. 135.—Lacquer on Arita Porcelain. Height, 8 ft. 8 in. (Corcoran Art Gallery.)

sunk into the lacquer before it hardens, or of painting. A pair of tall Arita vases (Fig. 135) which were exhibited at the Centennial Exhibition are examples of this work. Cloisonné enamel on porcelain (Figs. 136 and 137) is to be regarded chiefly as a curiosity of workmanship, and as an example of the irresistible tendency discoverable in Japanese artists to cope with mechanical difficulty, since the very same effects are produced with greater ease upon a metal base. Fine metallic lines divide the surface into spaces or cells shaped according to the details of the design, and are fixed to the biscuit by means of a fusible glass. The compartments are then filled with vitrifiable enamels. These adhere after firing, and help in keeping the cells in position. The chief places of manufacture are Owari, Kioto, Osaka, and Tokio.

The system of classification which has hitherto been followed has been adopted mainly in view of the modern manufactures of Japan. In looking at its more ancient wares, the place of manufacture being, as a rule, unknown, the method of assortment usually adopted is that based upon general characteristics and marked features of resemblance.

Fig. 136.—Tokio Cloisonné Enamel. (Sutton Coll.)

Following the Chinese parallel, there are, as we have said, Chrysanthemo-Pæonian and Rose families, but no Green. The symbols, whether consisting of flowers or animals, are the best and safest indications of the origin of the piece. Many of the finest specimens belong to the Rose family, and it may as well be stated at the outset that, in spite of the most careful examination, it is sometimes impossible to ascribe its representatives to a certain

origin, and to discriminate between the works belonging to China and those of Japan. It follows, that the finer pieces are at least equal to anything China has produced. The Japanese used to say that human bones formed one of the ingredients of the paste, and a meaning can easily be found for the phrase in the vast amount of labor demanded by its preparation. Specimens of the best qualities are as plentiful in Europe as in Japan: perhaps they may become more so, should the revival now expected not fulfil the hopes entertained regarding it.

Fig. 137.—Owari Cloisonné Enamel. (Sutton Coll.)

Jacquemart classes all the fine porcelain of Japan under the Rose family, to which would, therefore, belong the vase (Fig. 138) with white enamel decoration in relief. The subdivision of the family into vitreous and artistic porcelain, leads us to examine the grounds upon which it is made. The distinction between the two classes is based upon the styles of decoration. In both qualities the paste is very translucent, and the colors are pure and clear. The decoration of the vitreous is sparing, and of most careful execution, as though the artist were desirous of giving full effect to the natural beauty of the ware in its unadorned purity. Decorations of this kind gradually merge into more elaborate designs, in which flowers are strewn in careless grace over the opalescent paste, or animals are represented in gold and red. In the artistic porcelain the decoration partakes more of the Chinese intricacy and richness of color. Red, blue, green, yellow, and black mingle in scenes in which appear birds, figures, and flowers surrounded by deep and delicately shaded borders. It is inferred, from the gradually increasing elaboration of

Fig. 138.—Japanese Vase. White, Red, Rose, and Green. Blossoms on Left; White Enamel Raised. Height, 6¼ in. (Robert H. Pruyn Coll.)

the designs, that the vitreous preceded the artistic, and that the latter, while tolerably distinct from the Chinese Rose, is the result of Chinese influence.

By reason of his faulty chronology, M. Jacquemart's inference is open to question, although in the present case he appears to have reached a partial truth. The condition of both China and Japan, as it can be gleaned from history, detracts somewhat from the probability of the assumptions of the author mentioned. Europeans first landed in Japan in 1542—almost contemporaneously with the earliest manufacture of porcelain—and, in 1549, the first missionaries followed. In about thirty years (1581) one hundred and fifty thousand converts had been made, and, in 1583, an embassy was sent to the Pope by the daimios of Kiusiu. This is the Japanese embassy referred to by Mr. Marryat, as having taken place in 1584, on which occasion statuettes of the Virgin and Child, made by the Chinese for the Japanese Christians, were sent to Europe. But foreign intrigue and sectarianism soon culminated, and, in 1587, Hideyoshi banished all foreign missionaries. The work of proselytism was still carried on in private by the Jesuits, and, in 1596, a number of missionaries and converts were crucified at Nagasaki, in Hizen. The history of the next forty years is a narrative of desperate contention between the missionaries and converts on the one side, and the government on the other. The drama may be said to close with the massacre already referred to, which took place in 1637, when thousands of Christians were put to the sword, and thousands more were drowned in the harbor of Nagasaki.

Mr. Marryat says that the interference of the missionaries with the decoration of porcelain, by substituting scriptural subjects for the "ancient orthodox native patterns which had existed from time immemorial," is supposed to have contributed to the massacre. In connection with this subject the same author quotes from D'Entrecolles, who states that a plate with a biblical subject was brought to him, and that he was told this porcelain was formerly carried to Japan, but that none had been made for sixteen or seventeen years; that apparently the Christians of Japan had made use of this manufacture during the persecution, but that discovery led to a stoppage of the traffic, and that, in consequence, these works had been discontinued at King-teh-

chin. Mr. Marryat then refers to the Chinese pieces sent with the Japanese embassy to Europe. Assuming the statements in these passages to be correct, it is well to bear in mind that they refer to three distinct fabrics. To arrange them chronologically, the last mentioned is the porcelain made by China for Japan, before its own porcelain industry was well established, or before it had, at least, been fully developed. This supports the statement that porcelain was not made in Japan until shortly before the middle of the sixteenth century. Otherwise, the question will at once occur, Why, if porcelain had been made in Japan since the thirteenth century, should China be supplying it with religious figures before any steps had been taken in Japan against the new religion? The first of these measures, as we have seen, was the decree of Hideyoshi, passed in 1587. The porcelain first referred to by Mr. Marryat comes second in point of time, and is the porcelain assumed to have been made in Japan, in the beginning of the seventeenth century, for the Christian converts. The second is, chronologically, the last, and is the porcelain made in China, about 1755, for the same people, secretly adhering to their religion one hundred and twenty years after the supposed extirpation of Christianity in Japan. Père d'Entrecolles was attached to the King-teh-chin mission, about 1770.

While the religious troubles above detailed were keeping Japan in a continual ferment, China was disturbed by the incursion of the Tartars and the usurpation of the Tai-thsing Dynasty.

In Japan we have, therefore, an undisturbed period of not more than fifty years (1540–1587) favorable to the development of that originality which, according to Jacquemart, preceded the imitations of Chinese work. Some singular evidence, which may be read, in one sense, to the same general effect, has been brought together by Mr. B. Phillips, in the *Art Journal*, in an article devoted to the Medicean porcelain in the Castellani collection. He says that two Japanese experts examined the specimen engraved (Fig. 223), and pronounced the decoration Japanese. The style they attributed to Shonsui, and said that it was in use toward the middle and close of the sixteenth century. A piece made by Shonsui bore out the statement, it having similar decorations, even to the flutings, which had been shaded after the same method. If the Medicean bowl be examined,

simplicity will be found to be the most marked characteristic of the decoration; and it is clear that it must have been copied from some Japanese porcelain made not later than 1580.

It may, therefore, be accepted as an incontestable fact, that there was an essentially Japanese style of decoration, in the sixteenth century, applied to the blue Sometsuki, the porcelain destined for the home market. This leaves the question of precedence between the vitreous and artistic porcelains of the Rose family practically unaffected. The probabilities are all against M. Jacquemart's, or any other unqualified, theory of chronological sequence. The natural course is to proceed from copying to originality. Japan had acquired the ceramic art from China. Was it not likely to occupy its attention first with copying the simpler styles of its experienced neighbor, while feeling after an equally simple originality, such as the Italians copied in their turn? From the first it may have had foreign taste to contend with, although very little is said of a Portuguese trade in porcelain. Then came religious troubles to delay the development of a national art, and, before they were over, the dynastic war in China, causing a suspension of production in that country, offered an inducement to supply a new market, and thus again delayed the national development. One historical fact remains to be added: In the "*Ambassades Mémorables*," published at Amsterdam in 1680, we find allusion made to porcelain sent from the Dutch trading-post at Deshima, which did not sell well, *because it had not flowers enough upon it.* This clearly cannot refer to the "artistic" porcelain of Jacquemart, with its rich borders and crowded flowers. The only inference from all that can be said and legitimately assumed is, that the Hizen porcelain of the beginning of the seventeenth century is that which most nearly resembles the Chinese. To that period, therefore, may chiefly be assigned those rich pieces of Japanese Rose which have been confounded with the Chinese. When, afterward, the native taste for simplicity was striving to reassert itself, it was again obstructed by the demands of Dutch trade, and the requirements of such connoisseurs as Wagenaar, who objected to a paucity of flowers. It follows that many specimens of the vitreous class must have been subsequent to the artistic. From the beginning of the history of Japanese porcelain external influences were at war with native taste, and, in deter-

mining the sequence of styles, the only data open to consultation are the events ostensibly giving rise to them—the demand creating the supply—and the probable condition of the skill required to meet that demand.

The porcelain long called "Indian" belongs to the same period of Japanese art, and was taken home in ship-loads by the Dutch monopolists of the seventeenth century. The foreigners, not content with compelling, by the influence of trade, a bending of Japanese styles to their taste, supplied special designs. These were reproduced by the Japanese artists with the most exact and faithful precision.

A story is told by Captain French, of New York, that when in China some years ago, he saw fit to increase his wardrobe to the extent of a new coat. He had some difficulty with the native artist of the shears, and ultimately decided to send him an old coat as a pattern. In due time the new garment was finished, and so closely had the pattern been followed, that the sleeves were adorned with a couple of patches which had been applied to the old coat to prolong its natural term of service to the end of a protracted voyage. The Japanese artists were equally unreasoning in their adherence to designs supplied from Holland. They laid them upon the porcelain in all their crudity and roughness, and treated imperfections as the tailor did the patches—reproduced them with the most serious and unwavering fidelity to their model. Contact with foreign nations has never had any other than a bad effect upon Japanese art, excepting, of course, its early intercourse with China. The genius of the people has been diverted from its natural channel. Art has been in a manner subjugated by commerce. Hence came gloomy forebodings and threatened ruin. Whenever it had an opportunity of seeking free expression it changed its character. Instead, therefore, of classifying Japanese porcelain according to the families above mentioned, a better method might be to divide it into two great groups, the national and the commercial. A great part of the so-called artistic porcelain of the Rose family will belong to the latter class. It can only be distinguished from the Chinese by observing the points already noticed: the paste, the glaze, the greater purity of the enamel colors, the insignia, symbols, and flowers. Even these will fail at times, as the Chinese, led away by the improvements effected by the Japanese in imi-

tating their styles, did not hesitate to appropriate those of Japan; while Japan, we are told, imports Chinese egg-shell for decoration.

Apart from these doubtful pieces, we can see, in both the old and modern porcelain of Japan, national characteristics struggling with many difficulties to reach artistic expression. We find technical skill handling the finest material, shaping it into graceful form, and decorating it with carefully compounded colors of the greatest beauty. The true history of Japanese art is the history of the art we have called national; all else is but the prostitution of individual genius to commerce. In the former we find simplicity and piety mingled with a humor often quaintly clothed in clay. There is abundant material for research, for study and close examination. The art of Japan has many peculiarities, and will give an observer ideas of artistic beauty and æsthetic taste which an American or European education would never suggest. In it we find, above all things, a deep love and admiration of nature. All this is contained in the lines of the Laureate of the Potter, which are charged with the very essence of Japanese art:

"All the bright flowers that fill the land,
Ripple of waves on rock or sand,
The snow on Fusiyama's cone,
The midnight heaven, so thickly sown
With constellations of bright stars,
The leaves that rustle, the reeds that make
A whisper by each stream and lake,
The saffron dawn, the sunset red,
Are painted on these lovely jars.
Again the skylark sings, again
The stork, the heron, and the crane
Float through the azure overhead,
The counterfeit and counterpart
Of nature reproduced in art."

CHAPTER VIII.

PERSIA.

Persia, and its Influence.—History.—Conquests.—Religious Revolutions.—Zoroaster.—Mohammed.—Geographical Position.—General View of Influences bearing upon Art.—Decoration.—Flowers and Symbols.—Conventional Styles.—Whence came the Monsters Appearing upon Wares.—Metallic Lustre.

It is unfortunate, considering the great importance of Persia in the history of ceramic art, that it should have been a debatable ground to travellers and ceramists. Of the extended influence of Persia upon neighboring countries there can be no doubt. The Arabs acquired

Fig. 139.—Persian Faience Plaque. (Robert Hoe, Jr., Coll.)

from that people much of the knowledge which they subsequently brought to Europe, and which will be treated of more fully as Saracenic and Mauresque. Persia gave a language to the Mussulmans of

India, and supplied her with at least suggestions in the plastic art. Her art, in fact, spread far beyond the wide bounds of that empire, which extended from India on the east to the Mediterranean on the west, and from the Black Sea and Caucasian range on the north to the Persian Gulf and Arabian Sea. To have an exact knowledge of the problems with which we have now to deal, the several great revolutions recorded in the history of Persia may be briefly summarized. These changes were both religious and political in character. Beginning with Cyrus the Great, we find the empire as above described, about the year B.C. 559, when Media became tributary to Persia, into which other kingdoms were afterward merged in quick succession. The empire lasted until B.C. 331, when Alexander the Great included Persia in his grand series of Asiatic conquests. On Alexander's death, when the tributaries of Macedonia were divided, Seleucus Nicanor obtained Persia for his share; and the Grecian dynasty lasted until the Parthians revolted, and met with such success that a Parthian dynasty was founded which lasted for nearly five hundred years. This brings us down to the year 229 of our era, when Artaxerxes headed a revolt and laid the foundation of the second Persian empire. This is known as the Sassanian Dynasty, which held the sovereignty until the incursion of the Arabs, more than four hundred years later. Persian independence was reasserted after the lapse of a second period of four hundred years, and lasted until Genghis Khan and Tamerlane successively brought it under Mogul domination. The succeeding wars with Afghans, Turks, and Russians need not here be detailed.

The two great religious revolutions were occasioned by the adoption of the doctrines of Zoroaster and Mohammed. The first of these appears to have suddenly emerged from the comparative obscurity of the court of Bactria—a country situated upon the eastern confines of ancient Persia—and to have led the Persians to renounce their gross idolatry. The leading tenets of his creed were the existence of a supreme being, eternity, and the contending principles Ormuzd and Ahriman, good symbolized by light and evil by darkness. The never-ceasing contention between these two opposite principles is often represented by a bull and a lion in conflict. The cypress was Zoroaster's emblem. This religion took a deep hold upon the Persians, and the first serious shock which it sustained was from the religion founded

by Mohammed in the wilds of Arabia Petræa. Of the two Mussulman sects, Schiites and Sunnites, created by the dissensions following upon the Prophet's death, as to the choice of a successor, the Persians preferred the former, and are believers in Ali. The Turks, on the other hand, are Sunnites, believers in the legitimate succession of Abubeker, Omar, and Osman. Propagandism by the help of the sword being the privilege and virtue of the believers in the Prophet, it is not astonishing that Turk and Persian should have met in the argument of battle.

Coming next to the geographical position of Persia, it intercepted, in its ancient extent, all communication between East and West. The vast extent of territory owning its sway, stretching nearly three thousand miles east and west, and two thousand miles north and south, must needs be traversed by travellers between Europe and the extreme East. Long before navigators had found the ocean highway round the Cape, Persia received all the traffic from India, China, and Japan passing through the Persian Gulf to Europe.

Let us now take in all that has here been stated, at one glance, and we shall see clearly why Persian ceramic art has been viewed with doubt. Overrun successively by Greeks, Parthians, Arabs, Moguls, and Turks; widening and contracting its boundaries as the tide of conquest ebbed and flowed; lending to India, and probably borrowing from it; taking part, at one time, in the Zoroastrian worship of fire, and, at another, in the Mohammedan praise of Allah; connected, through trade, with the far East on the one hand and with Europe on the other, Persia was pre-eminently a country to confuse the investigator by the mingled types, symbols, and ideas which it derived alike from conqueror and trader. One fact of peculiar interest remains to be added. When, in the middle of the thirteenth century, Hulaku Khan came to Persia, he brought among his Mogul followers a number of Chinese artisans. The Mogul territory touched the western boundaries of China, so that it is quite possible, that to the specimens of Chinese porcelain brought to Persia by sea may have been added a number of Chinese artists and potters arriving with the Moguls by land. In view of these facts it is not difficult to account for the prevalence in Persia of imitations of the Chinese, nor is it altogether incomprehensible that a question should have been raised whether what is called Persian porcelain is not in reality Chinese.

Persian decoration is rich in flowers (Fig. 140), for which that people entertained a liking amounting almost to a passion. The tulip meant love. Of the other symbolical forms found on pottery, the lion and bull and the cypress have already been explained. The sun was the Zoroastrian emblem of divinity, and the royal arms consisted of the lion couchant, with its head turned toward the rising sun.

Fig. 140.—Persian Plaque. Crimson Peony in Centre; Foliage and Ground in various Shades of Green. (Boston Museum of Fine Arts.)

The various styles of decoration may all be qualified by one word — conventional. Although on the earlier pieces the human figure is found, with the Mussulman sway it disappears, to make way for hybrid monsters resembling the half-human beings of mythology — compounds of women and birds, men with horns and tails, like the satyrs of Greece, and numberless other supernatural monsters illustrative of the artists' compromise with the Mohammedan behest forbidding the representation of the human form or of living beings. Even the greatly loved flowers suffer in both tint and form from the artists of Persia. Colors were used in a precisely similar spirit. Nature was sought for suggestion, not for imitation. The question of color was decided solely with an eye to effect; and if a violet horse should harmonize with its surroundings better than a black, gray, sorrel, or bay, the fact that in

Fig. 141.—Persian Plaque. Central Section, Blue; Side Section, Green; Scroll-work, Brown. (Boston Museum of Fine Arts.)

nature no such color is found on horses was not held to be a legitimate objection to its use. In Persia, therefore, we are presented with a peculiar phase of art. Nature, being followed neither in form nor color, nor in the suggestive manner of the Japanese, which finds the highest art in the combination of resemblance and imagination, is relegated to the position of a promptress, and not of a guide. In richness and harmonious blending of arbitrary colors, the Persian artist realized his highest dream, and never forgot that, no matter what natural object might enter into his design, the ornamentation of pottery was surface decoration, and nothing more.

Before proceeding to the usual divisions hitherto observed, there is one point demanding special attention, viz., the Persian *reflet métallique*, or metallic lustre. The use of metallic-lustre pigments was, as has been already stated, known in the Balearic Islands, and gave the *original* majolica its distinctive appearance. Long before that date the process was known to the Persians in connection with silicious glaze. The metallic lustre has also been found on Arabian specimens. It is in Persia, however, that we must, in all likelihood, look for its origin. The date of its invention cannot be fixed with even an approximation to precision. The probability is that it was never very extensively used, and the specimens obtained are mostly fragmentary. Many of these are from the ruins of Rhages, a city which stood about seventy miles south of the Caspian Sea. Earthquake and conquest successively laid this city in ruins, and each time that it was rebuilt its limits became more contracted. It was finally destroyed during the Mogul irruption under Hulaku Khan, in 1250, and it is from the ruins beyond the city of that era that the above mentioned fragments have been taken. In fixing the origin, therefore, of metallic lustre, the latest date would be six hundred and twenty-seven years ago, the most remote perhaps over two thousand. The metallic-lustre pigments were made use of as late as the time of Shah Abbas, who reigned from 1555 to 1628, and whom Jacquemart calls the "Louis XIV. of Iran."

POTTERY.

Composition.—Caution in Looking at Specimens.—Wall-Tiles and their Decoration.—Vases.

Chemical experiments have shown that in one kind of Persian paste there is a large preponderance of silex, that when fired for a certain time the result is a faience, and that a continued exposure to the kiln reduces it to a partially translucent body resembling porcelain. Some of the tiles show silica ranging about ninety per cent., and the remaining fraction consisting of alumina and iron, lime, magnesia, and potash. By comparison with the porcelain standard adopted in the table (Book I., Chapter iii.), it will be seen that this paste differs in the greater proportion of silica and in the presence of iron. It differs from earthen-ware, on the other hand, by its containing magnesia and potash. The faience of Persia must, therefore, be treated with extreme caution; and the authorities must be consulted with care, since what one calls pottery, another treats of as soft porcelain. Of that coming most nearly to what we understand by the word "faience"—that is, a perfectly opaque ware—some of the specimens are glazed, and others are covered with only a thin lustre or varnish. Very fine examples are found in the wall-tiles taken from the different mosques. The same style of ornament was applied

Fig. 142.—Shrine of Imam Hussein, at Kerbela. Showing the Use of Tiles in Persian Architecture.

to these and to vases, and its general character has already been designated. Arabesques and flowers—some imitations of the natural and others altogether conventional—are profusely spread upon both, with a boundless wealth of rich color. The forms assumed by the various vessels differ very widely from each other. Cups, open dishes with rims of varying breadth, and a number of water-vessels illustrate certain manners of the Persians. The color and ornamentation are distinctive. The favorite ground colors were the blues of copper and cobalt, and these alternate with red, and yellow tinged with red. The ornamentation is very often white. The Mosque of Sultaneah has already been described (see page 39). In others the colors are reversed, *i. e.*, white is used for the ground and blue for the decoration. At times we see the Persian love of the chase triumphing over the Mohammedan prohibition of the employment of animal figures, by the introduction of hares or gazelles, generally upon grounds of light shades of green and blue. Some of the most remarkable plaques belong to the same period, and in both the earlier and later examples the coloring is exceedingly rich and effective. What the latter lose in simplicity they gain in brilliancy. Some pieces, apparently of great age, have a close resemblance to the céladon of China. The vases *a reflet métallique* are either blue, or white with yellow ornamentation. The art of applying the lustre seems to have disappeared about the middle of the seventeenth century. The tiles of this kind date mostly from the time of the Mogul Dynasty. The larger plaques measure sometimes six feet by eight feet; the smaller tiles without inscriptions are star and cross shaped fitted together in a mosaic.

PORCELAIN.

Had Persia a True Porcelain?—Classification, and the Difficulties Attending It.—Decoration.—Classes Formed by Prevailing Color.

Although the discussion was long maintained, whether or not Persia produced a true kaolinic porcelain, there seems to be no real ground for doubting that such was the case. That India produced porcelain we have already seen, and it becomes a question whether the art was not practised elsewhere in Central Asia. The evidence bearing upon

the point clearly shows that Persia possessed the materials for making a pure kaolinic porcelain. The presence of Chinese works and styles does not affect the question. These may either have been the work of Persian artists imitating Chinese models, or of Chinese artists working in Persian material. The Persians call porcelain *tchini*, a name clearly indicating that in one of the above ways they were indebted to the Chinese.

Fig. 143.—Persian Porcelain Wine Bottle. Decoration in Blue. (Jacquemart Coll.)

By reason of the qualities of the paste already noted, the classification of Persian porcelain is a matter of some difficulty. The analysis which could alone decide the class to which the specimens belong is in a great measure wanting. It may be inferred that two pieces, apparently distinct in composition, may be really identical, and representative merely of the successive changes effected by firing upon the silicious paste. The most ancient kind is not older than the Mussulman incursion. When subjected to a great heat it melts like glass.

Fig. 144.—Porcelain Narghili.

What is called "soft porcelain" is not, properly speaking, a distinct variety. It differs from the others in decoration, but not to any perceptible extent in composition. The paste is very translucent, and the glaze even. The external decoration is frequently blue or a tint of mixed brown and yellow, upon which appear flowers and arabesques (Fig. 143). Cups and basins are the shapes most frequently occurring, and the first decorative feature is that the outside and inside are seldom alike. The latter may

be white, with copper-lustre decoration, and the outside may be in either of the two colors above mentioned. A style of decoration very widely followed consists of a series of holes cut in the paste round the rim of the basin or bowl, and filled in with the glaze. This method was adopted at a very early period, and reappears in the "grains of rice" work of China. A later specimen—probably not more than two hundred years old—of Persian "soft" porcelain has its upper and lower parts in blue and white, with lustred ornamentation.

Persian natural porcelain, about which writers have disputed, and called by the Persians *tchini*, is closely related to the Chinese. An entire class is characterized by its decoration of incised lines and blue painting under the glaze. The paste is somewhat coarse, and lacks cohesion. As to the antiquity of this quality, all that can be said is that it was produced a long time prior to the fifteenth century. Red and gold are seldom employed with blue, but rather characterize a distinct class. Green was much more indiscriminately employed, as, for example, with blue, brown, red, and gold. The céladons are to be distinguished from the Chinese, not by the color—for they show the beautiful old green of their Chinese counterparts—but by the design and form. All that remains to be added is, that, like every other people to whom the higher secrets of ceramic art were open, the Persians attached a very great value to the best works in both porcelain and pottery. The former is, in their literature, constantly associated with gold and other precious materials.

BOOK III.—EUROPE.

CHAPTER I.

THE FOUNTAINS OF EUROPEAN ART.

Routes by which Art Travelled.—Their Point of Convergence.—Cyprus: Its History.—The Successive Nations Governing It.—The Strata of Ancient Civilization found within its Shores.—The Discoveries of Cesnola.—Larnaca.—Dali.—Athieno.—Curium.—Progress of Cypriote Pottery.—Early Greek Art: Its Connection with Assyria and Egypt.—Phœnician and Assyrian Art.—General Deductions.—Asia Minor.—Oriental Art turning in various Streams to Greece.—What Greece Rejected, Persia Seized upon.—Persia's Contributions to Ceramic Art.—History in Reference to its Art.—Effect of Conquest.—What Persia Taught the Arabs.—Spread of Persian Art by the Saracens.—Rhodes.—Damascus.—Progress of Saracenic Art.—The North of Africa.—Metallic Lustre and Stanniferous Enamel.—Hispano-Moresque.—Early Spain.—Persian Influence upon Europe.

We now approach a point in our history which stands within sight both of the wonders of early Greece and of the beginnings in the Middle Ages of the best ceramic art of Europe. From Persia, as a centre, art travelled north and west by many devious routes ere it touched the European shores. But behind the Persian is the older civilization of Babylonia and Assyria, to whose glories it succeeded. We are thus once more brought back to Egypt and Egyptian influences. After spreading to the east they extended northward, and in Greece are met by others transmuted by a passage through Assyria and Phœnicia, but springing from the same prolific source on the banks of the Nile. Persia, after acquiring from Egypt's eastern pupils her earliest knowledge, adapted the lessons thus derived to her own ideas, and spread it across the tracts already followed by others who had learned directly from her teachers. From both the south and east these lines of original and derivative art converged toward one point, the eastern shores and islands of the Mediterranean and Greece. To show how difficult

it is to disentangle the web of footprints, let us glance at Cyprus, as revealed to us by the discoveries of General Luigi Palma di Cesnola (Fig. 145), and described in his work upon "Its Ancient Cities, Tombs, and Temples." The record may be read by all who visit the Metropolitan Museum of New York. We choose Cyprus because it was

Fig. 145.—General Luigi Palma di Cesnola.

virtually the meeting-place of the East with the West. Assyrian, Egyptian, Phœnician, and Greek influences contend for the mastery.

There is no certainty as to the derivation of the first settlers. They may have been either Phœnicians or Cilicians, and thus only another branch of the great Semitic family to which the Phœnicians belonged. Or colonists may have arrived from Cilicia and Phœnicia at about the same time. There is less reason for believing that any settlers came from Egypt, although the first historical conquest of the

island was effected by the Egyptians. This event took place about B.C. 1440, during the reign of Thothmes III. How long it remained under Egyptian control does not exactly appear, but it next passed into the hands of the Tyrians at a date prior to B.C. 1000. It was next conquered by Sargon, King of Assyria, and when, about B.C. 600, Apries, King of Egypt, took Sidon, he included Cyprus in his conquest. Amasis, the successor and murderer of Apries, completed the work of the latter. The Cypriotes then turned for deliverance to Cambyses of Persia, and Cyprus became a dependency of the great eastern power. Again the island was shaken by revolt, and the greater part of its people joined the Ionians in an unsuccessful attempt to throw off the Persian yoke. The Athenians and Lacedæmonians, after taking a portion of Cyprus (B.C. 477), abandoned their conquests. Then came the rebellion of Evagoras, King of Salamis, whose father had been dispossessed by the Persians, the result of which was that Evagoras recovered his own kingdom, but the island still remained tributary to Persia. It then fell under the control of Alexander of Macedon, and was held by his generals for a few years after his death. Ptolemy Lagus, or Soter, again brought Cyprus under Egyptian rule, and lastly came the arms of all-conquering Rome. We need go no farther. We stand in Cy-

Fig. 146. — Phœnician Vase, with Figure. (Cesnola Coll., N. Y. Metropolitan Museum.)

prus, upon a battle-field crossed by the armies of every nation of antiquity with any claim to warlike renown, and find in it at once the theme of ancient poets and the prize of ancient warriors. So far we may travel in the track of war, but the history of art is affected less by the conquest of battle than by permanent occupancy and the more peaceful conquest of colonization. Thus we find Phœnician art leaving a deeper impress upon Cyprus than any other, and one to be detected even amidst the confusion of Semitic and Hellenic remains. This art developed, on the one hand, into something bearing a semblance of an independent Cypriote character, and, on the other, into a form more distinctively Greek. Phœnicia was the country in which the Assyrian and Egyptian elements of decorative art were combined, and being brought on the other side into contact with Greece, the history of Greek art is thus continued backward into a remote antiquity.

Fig. 147.—Phœnician Vase, from Curium. (Cesnola Coll., N. Y. Metrop. Mus.)

The early Phœnician settlers located themselves chiefly on the southern and eastern sides of the island; the Greeks chose the north and west. Both were evidently actuated by the same motive, viz., to give the preference to the localities nearest the land from which they had come. The Phœnicians founded Paphos, Amathus, and Citium; the Greeks founded Salamis, Curium, Neo-Paphos, and several other towns. Teucer and Agapenor, two of the Greek heroes from the Trojan war, settled in Cyprus, and the island is thus introduced into Grecian legend. As time passed, the Greek and Phœnician elements underwent a more or less complete amalgamation. The Greek language became the prevailing tongue, and the Phœnician religion became the common creed. Aphrodite, who sprung from the foam of the sea, and was wafted to the shore of Cyprus, was the

Fig. 148.—Phœnician Vase, from Dali, with Phœnician Inscription. (Cesnola Coll., N. Y. Metropolitan Museum.)

Tyrian Astarte, the Assyrian Mylitta. Her worship extended over the whole island, and was engaged in with all the licentious impurity of the Oriental original. Greece rose as Phœnicia declined, and her people spread beyond the limits of their ancestral settlements. One civilization rose upon the ruins of another, and died in its turn; and Cesnola found them piled one upon another in strata, to be opened up and read like the stony leaves of the geologist's book.

Fig. 149. — Phœnician Vase, from Curium. (Cesnola Coll., N. Y. Metropolitan Museum.)

That this is literally the case can be very easily shown. General di Cesnola began his excavations at Larnaca, on the southern shore of the island, or near the ancient Citium, or Kittim, a Phœnician city. Near this city have been found a number of terra-cotta statuettes, which General Cesnola ascribes to the fourth century before our era. He thinks they were imported from Greece. They were accompanied by others, poorly executed, and some figures suggestive of Phœnicia and Egypt. It was here that the vase, Fig. 150, was discovered. Crossing the Santa Croce range, he found, at Dali, on the plain of Messaria, the necropolis of the Phœnician city Idalium. He began his excavations among the Phœnician tombs, and exhumed a great quantity of pottery of several shapes. The vases are of light-colored clay, and are variously decorated with geometric patterns and concentric circles in brown color. One of them (Fig. 148) has a Phœnician inscription, and all the others were evidently Phœnician. Above the tier of tombs from which these were taken, a second tier was discovered, of a different epoch, and containing objects of a totally different character. Earthen-ware gave place to glass in all the shapes found in Greek pottery, the amphora, lekythos, krater, kylix, and others. Many were of a formation so evidently late that the discoverer ascribes them to the Græco-Roman period. Here, then, was Greek and Phœnician work reposing in juxtaposition. An explanation was found by returning to the Greek tomb which had

been first opened, and under it was discovered the continuation of those of the Phœnicians. The Greek Idalium had grown upon the ruins of a Phœnician predecessor, and hidden under the ashes of the one Cesnola found the necropolis of the other. On prosecuting his researches in the latter, the type of pottery again altered, and the decoration of concentric rings reappeared. At Alambra, west of Dali, he found a number of small clay images—horsemen, warriors, chariots, a representation of a procession, and vases of two kinds. He made excavations in five burying-grounds, all apparently belonging to the Phœnician Idalium; and from a mound in the same district he obtained a collection which, from the combination of Egyptian and Assyrian forms and decoration, may be assumed to contain some of the most ancient relics of Phœnician art. Two green-glazed bowls have Egyptian paintings, and the vases occasionally take the form of animals and birds.

Striking eastward from Dali, the explorer reached Athieno, near the ancient Golgoi, and there came upon a necropolis and an ancient

Fig. 150.—Assyro-Phœnician Vase, from Larnaca. (Cesnola Coll., N. Y. Metrop. Museum.)

temple of Venus. The most remarkable fact concerning the statuary brought from this locality is that the lines of nationality are so broad and well defined. General Cesnola then determined to push his ex-

plorations toward the East, and, after visiting Salamis, turned westward to Paphos, Neo-Paphos, and then northward to Soli and other places on the northern shore. Returning to the southern shore, a number of terra-cotta vases and figures of the Phœnician type and Egyptian green-glazed vessels were exhumed at Amathus. A statuette of Astarte and figures of Egyptian deities were found almost together. Lastly, General Cesnola visited Curium, a city said to have been founded by an Argive colony. There he found pottery of the usual mixed types, including vases, terra-cotta figures, and one large vase (Fig. 151), so strongly marked with Greek influences that he ascribes it to the earlier period of Greek art. Both General Cesnola and Mr. A. S. Murray think that it may have been taken to Curium from Greece. Its four handles, its great size, and its elaborate decoration make it unequalled among the vast number of Cypriote relics in the Metropolitan Museum.

Fig. 151.—Greek Vase, from Curium. Height, 4 ft. 9 in. (Cesnola Coll., N. Y. Metrop. Museum.)

In constructing a theory of the progression of Cypriote pottery, it is necessary to examine closely the different styles of ornamentation. On some we find Assyrian symbols and characteristic styles of decoration; on others the figures are as evidently Egyptian. Thus the

archaic vase from Larnaca (Fig. 150) is just such a work as might be expected from the Phœnician founders of Kittim while still directly under the domination of Assyrian ideas. The pattern between the animals is distinctively Assyrian. In a similar manner the vase (Fig. 146) is decorated with an Egyptian figure, but in the subsidiary decoration — the plaited pattern on the sides and the concentric circles arranged vertically—there is nothing indicative of Egyptian influence. We see in it the work of a potter who combined an Egyptian suggestion with a more independent form of ornament. It has already been said that, of all the nations of antiquity, the Phœnicians are most strongly marked by influences emanating from Egypt, on the one hand, and from Assyria on the other. To this people, therefore, we may attribute the two vases last referred to.

Fig. 152.—Phœnician Vase, from Curium. (Cesnola Coll., N. Y. Metropolitan Museum.)

It is also necessary to bear in mind that, while certain symptoms of independence on the part of Cypriote potters must be appreciated at their full value, there are no evidences of the potter's art ever having developed among them to any great extent. It is possible that the effeminate, voluptuous nature of the people prevented the attainment of artistic superiority. It is also possible that their skill in working metal may have distracted their attention from clay. In either event we discover no well-defined gradation from the lower to the higher, such as we find in Greece. Cyprus may have been still wrapped in slumber, while Greece was striding forward in the full vigor of its young life. It may have been following its ancient models, while Greece was turning from the old to the new and original. It is difficult, therefore, to ascribe with precision the Cypriote pottery to any given age. A rule by which to determine such questions has been laid down in this way: vases painted with linear designs are the most ancient; then follow those with animal figures; lastly come those with human forms. Cypriote pottery makes the application of such a rule extremely hazardous and difficult. How apply it to the vase with vertical rings

and human form and head (Fig. 146)? The figure is Egyptian, and might, for that reason, carry us back to the conquest by Thothmes III., were it not that it represents the latest style of decoration according to the accepted rule, while the remainder of the decoration belongs to the earliest.

Fig. 153.—Phœnician Pottery, from Curium. (Cesnola Coll., N. Y. Metropolitan Museum.)

The practice of ornamenting with concentric rings is an application to pottery of a pattern borrowed from working in metal. Cyprus was famed for its copper, and, from the legendary age downward, exported armor and weapons of bronze. It is not singular, therefore, if on some of the ruder relics of the potter we should find this ornament. In the curious circle of vases (Fig. 153) we see arranged round the base the concentric rings, which were in time transformed into the Greek spiral. The same pattern is exemplified in the specimen from Curium (Fig. 154), from which, and from several others in the Metropolitan Museum, it might almost be inferred that the vessel had been shaped to suit the favorite style of decoration. A cognate style, also having its origin in metal-working, is that represented in the vase from Dali (Fig. 148), sufficiently authenticated by its Phœnician inscription. It belongs to a very large class, which appears to extend from the earliest times down to the beginning of purely Greek art. It will be observed that the squares run both horizontally and perpendicularly, an arrangement

Fig. 154.—Phœnician Vase, from Curium. (Cesnola Coll., N. Y. Metrop. Mus.)

much more noticeable in many other specimens. One of the earlier examples is seen on the bird-shaped vase in the illustration Fig. 155. In what is probably a much later vessel, a swan with circular body and triangular wings makes its appearance. This is the rude attempt at decorating with figures of an artist skilled only in geometrical designs. One point is to be particularly noted before leaving these vases, viz., that in that bearing the Phœnician inscription, the vertical

Fig. 155.—Phœnician Vases, found at Dalj. (Cesnola Coll., N. Y. Metropolitan Museum.)

lines or bands give place to horizontal bands round the upper part of the body and neck. The Greeks invariably make use of the horizontal band.

The approach to Greek art is marked by the introduction of several new features. In the vases from Curium (Figs. 149, 156, and 157), the lines are horizontal, the shapes improve, and the spout, consisting of a woman holding a pitcher, is indicative of a skill in moulding and an originality in designing, having little in common with the ruder forms from the same city. This is one of the ideas

which seems never to have occurred to the modern potter, whose most fantastically turned and severely shaped spouts contrast most unfavorably with the simple yet apt design of his old Phœnician predecessor. The Phœnician vase with animal figures from Dali (Fig. 158),

Fig. 156.—Phœnician Vase, from Curium. (Cesnola Coll., N. Y. Metrop. Mus.)

Fig. 157.—Phœnician Vase, from Curium. (Cesnola Coll., N. Y. Metrop. Mus.)

is the ancestor of a large class of early Greek pottery similarly decorated. The shape and the encircling horizontal bands recall early Greek work, and the animal forms point to an Asiatic influence transmitted in part through Phœnicia, but probably also through other channels, to Greece. The style is rare among Cypriote vases. It is carried farther in the large vase from Curium (Fig. 151), which is remarkable as a combination of the Cypriote rectilinear method of decoration, the earlier form of the Greek fret, the Asiatic style of animal decoration, and the culmination of the Cypriote rows of concentric rings found in the bands of spirals. This is one of the most remarkable vases in the Cesnola collection, and also one of the most important links between the art of Greece and those of Phœnicia and the East. Even admitting it to have been made in Greece, and thence taken to Curium, it is in perfect harmony with the Phœnician vase last referred to, on the

one hand, and with that bearing the Phœnician inscription on the other.

The Greek vase and cups from Dali (Fig. 159) show a new motive in the decoration. The spirals give place on the vase to a running scroll, painted with a free hand; and in the kylix on the left, the concentric circles become semicircles, festooned round the lip after the fashion of lambrequins. In the kylix on the right, the rectilinear designs and enclosed squares become the fret. It will be seen hereafter, when we come to speak of Greece, how the forms of the kylix improve.

While we cannot assign an exact age to any of these works, we can see how the beginnings of the art of Greece can be traced to a much more remote antiquity than was previously apprehended. Mingling in the heroic age with a people uniting in itself much of the civilization of Assyria and Egypt, the Greeks were acquiring the knowledge which their own artistic genius subsequently turned to such brilliant account. The highway is complete from Greece to untold antiquity. We learn, therefore, from the relics brought together by General Cesnola, that the view taken of the devious course followed by ceramic art is correct. Egypt gave instruction to all. In her is the spring of ancient art. The Phœnicians studied under her Assyrian pupils, and the two branches, from Phœnicia and Egypt, met in Greece, and there appeared in a new form, more refined, and reflecting a higher ideality and a keener sensitiveness to the subtlest lines of beauty. Di Cesnola has found in Cyprus

Fig. 158. — Phœnician Vase, found at Dali. (Cesnola Coll., N. Y. Metropolitan Museum.)

their point of contact, and has disclosed to our eyes the teacher and scholar sleeping in a common grave.

Should it be asked if in Cyprus alone we must look for the ceramic remains of Phœnicia, the Land of Palms, the answer must be negative. It is true that few relics have come down to us from the sites of her domestic industries. But let us glance briefly at the history of that wonderful country, wonderful alike in enterprise and in science. Ptolemy Claudius, writing in the second century, says that Phœnicia extended from Egypt on the south to the Eleutherus on the north, and eastward to the confines of Syria; or, in other

Fig. 159.—Greek Vase and Cups, found at Dali. (Cesnola Coll., N. Y. Metropolitan Museum.)

words, that to it belonged the entire eastern shore of the Mediterranean. Like all other eastern nations, it changed its boundaries as the successive waves of war swept over it. First came the Persians, then the Greeks, and, lastly, the Romans. When enjoying its independence, in an earlier age, it was the disseminator of the knowledge which, to a great extent, it acquired in Egypt. To Greece it gave its alphabet, the foundation of the literature which has kindled the admiration of the scholars of all times. Its navigators passed the Pillars of Hercules and reached the shores of England. Phœnician colonies were founded all along the Mediterranean, at Utica and Carthage on the south, and at Marseilles in Gaul. Here, then, was a

people gathering in from every side all that the world could give of art and science, and spreading its knowledge with every keel which, from the great ports of Tyre and Sidon, furrowed the Mediterranean. As might be expected, therefore, the remains of its ceramic art and the evidences of its influence are found in Cyprus, Malta, Egypt, Carthage, Greece, Sicily, Rome, and Etruria.

The ceramic remains found on the Phœnician coast are nearly all referable to her later conquerors. One specimen is singular and suggestive. It was found at Tyre, and is a polished cruse, with round body, long neck, wide lips, and a handle joining the neck and body. It resembles the Egyptian too closely to leave any doubt of the origin of its style and manufacture. After our previous experiences we are quite prepared to meet a mythical Phœnician worker in clay; but his presence does not disturb our inferences. It merely pushes back to a prehistoric age the date when the first of Phœnicia's debts to Egypt was incurred. Other examples, fragments with Phœnician inscriptions, give further hints of the immediate well-spring of Grecian art. Phœnician vases are found in Sicily. Egypt and Carthage teach the same lesson, and illustrate the wide-reaching enterprise of the Tyrian founders of Carthage.

Turning northward from Phœnicia to Asia Minor, the evidences of ceramic skill point to identically the same conclusion. Let us take the older first. There, as in Cyprus, we meet with early traces of Hellenic art. Across the Ægean sea, on the shores of Asia Minor, Greece again touched the older arts of Assyria and Egypt. The coffins found in Mesopotamia are after the Assyrian type. From Tarsus come terra-cotta works ornamented with green, in a simple style, closely allied to the Greek. At Rhodes has been found a vase or pitcher of turquoise blue, ribbed perpendicularly, and crossed at intervals by horizontal bands. Such specimens take us back again to Egypt. In short, the history of Asia Minor, its existence successively under Scythians, Medes, and Persians, while it was receiving the surplus population of Greece from the west, would lead us to look for what we only found in part in Cyprus, namely, native styles moulded by influences from east, west, and south. These generalizations are offered as a substitute for a more connected history, for the construction of which intelligibly the materials are wanting. Enough has

been said to show that through many different channels the arts of Egypt and the East set, in a long and steady stream, toward Europe; that there, meeting with the rising Hellenic civilization, they were transmuted and purified, and that from the Hellenizing process emerged the admirable art now called Greek.

Meanwhile it is to be noted that, so far, we have made allusion to only one-half of the debt which Europe owes to the East. Greece rejected the rich coloring and fantastic forms which reached her from the centre of all that was most brilliant in ceramics—the land between the Tigris and Euphrates. These were seized with avidity by Persia, the only survivor, in our time, of the four great monarchies of the East. Bright colors and gorgeous combinations were grateful to the eye revelling in the splendor almost unconsciously associated with the word "Oriental." To Persia, therefore, we must look, not only as the great conservator of previous skill, but as the medium of its development into a higher form. That part of her inheritance from Assyria and Babylonia which concerns us now, was the knowledge of processes, of the deft mingling of colors, the production of tints, and the skilful application of enamels. We have seen to what purpose this knowledge was cultivated, in so far as the evidences found within her own borders can show. We have seen what may here be especially recalled, enamels and metallic lustre applied to pottery, with an almost bewildering brilliancy.

We now approach the question of Persia's contributions to the art. Can, for example, none of the remains exhumed by Cesnola be claimed for Persia? It appears not, at least not with certainty, although certain plaques convey a hint of Persian workmanship. Whatever she left in Cyprus, if anything, is hardly to be distinguished from the older works of Assyria and Phœnicia. Had Persia, then, no originality, and where beyond her own limits must we look for its distinctive impress? Let us return for a moment to Persian history. We have already seen that the country was occasionally overrun by surrounding nations, but the fact is noticeable that when it could not resist, it absorbed its assailants. Its nationality was preserved even in conquest. A similar capacity for assimilation and independence is seen in its art. There can be no doubt of its having drawn from Assyria and Babylonia. Its most ancient architecture is sufficient to settle that point. But apart

from that, and keeping in view the influence of Mohammedanism and the influx of Chinese wares and possibly workmen in the sixteenth century, the art of Persia is marked throughout its entire course by certain distinguishing features which invasion could not obliterate. The artistic instinct was strong in the people as a whole; and conquest retarded the progress of art only to see it rise again in all its first vigor, to be spread far and wide even by those who had for a time hindered its native growth. In this way we can trace its advance to Asia Minor and Rhodes, through Egypt, along the northern coast of Africa, and thence to different points in Southern Europe.

Fig. 160.—Saracen Tile. (Trumbull-Prime Coll., N. Y. Metropolitan Museum.)

The tracks we now follow are those of Eastern art in its second and more modern progress toward the west. Persia was its real source. When the Mohammedan Arabs overran Iran, they found art the handmaid to beauty and luxury, to which they had been strangers. Essentially nomadic, the wild fanatics from Arabia had given little attention to æsthetic culture. They were captivated by what they found in Persia. If they modified it, it was only to make it conformable to the behests of their religion. We find, for example, a faience tile representing the sacred Temple of Mecca, in two shades of blue, red, black, and pale-green, and with a border of white and red. It is easy to imagine the caliphs of Bagdad calling to their assistance the men whose works they had seen, to complete the embellishment of their capital. The style called arabesque is in all probability of Persian origin. In every collection of note are examples of

Fig. 161.—Saracenic Tiles. Green and Dark-blue on White. (Boston Museum of Fine Arts.)

what is called Saracenic pottery. The Arabs were called Saracens when they came to Europe, or met the arms of the Crusaders in Palestine. Saracen pottery, therefore, is Persian modified by Arabian taste or local style. And here, to save much trouble, and avoid the confusion into which disputants over the wares of Damascus, Rhodes, Cairo, and other localities might lead us, it may be as well, once for all, to understand that at no place of which we have any knowledge were the Saracens the first to introduce a rudimentary knowledge of pottery. What they did was to bring with them certain distinctive styles; and now, when all proofs of an earlier fabric are wanting, we may safely take it for granted that it existed, and that the invaders and colonists only superimposed a superior art. This should be borne in mind, because it would be impossible to account for the abundant remains found on certain sites by attributing them all to the Saracens. One of the first things to which the Arabs turned their attention in each country to which they carried their arms, was to raise mosques for the religious observances attaching to their faith. The tomb of Mohammed, at Medina, is covered with tiles so closely resembling those of Persia as to suggest not only Persian inspiration, but Persian workmen. In Asia Minor tiles belonging to the eleventh and twelfth centuries are abundant, of a precisely similar character. History explains their presence there by telling us that the Arabian or Saracenic conquerors sent for artists from Persia to bring their skill to the embellishment of the new domain. In this we have the key to much of the ceramic art of Asia Minor.

Fig. 162.—Faience Jug, from Rhodes.

As to Rhodes and the origin of its faience (Fig. 162), we are tolerably certain that in Persia was the source of the skill there developed. History and tradition point to the same conclusion. Legend says that a vessel bound for Venice, and having some Persian potters on board, was wrecked on the island, and that there a manufactory was founded (Fig. 163). Possibly on this tradition the conjecture was based that a Persian colony had settled there. In any case, Rhodes was occupied by Persians in the seventh century, and then by the Greeks. When the crusading fever was at its height, the knights of St. John held the island until expelled by the Turks. It was probably these knights who captured a vessel laden with Persian pottery and artists, and compelled the latter to found the manufacture at Rhodes. At the Musée de Cluny are specimens of their work, plainly Persian, but adapted to the changed condition and limited appliances of the potters. The Rhodian differs little from the Persian. The colors are less brilliant, and the ornamentation in relief is like that found on vases and tiles in Asia Minor. The predominating colors are white and blue for grounds and red for designs. Similarly as to Damascus, it is beyond reasonable doubt that potteries existed there. Their ruins are said to have been found; and it is probable that, so far from importing the wares, Damascus supplied orders from without. These facts lead to the conclusion that Persian art was carried by the Saracens or their Christian opponents to the same countries that Egyptian and Assyrian art had reached centuries before.

Fig. 162.—Faience Jug, from Rhodes.

Turning now to the south and west, we follow the line of Saracenic conquest along the north coast of Africa until it reached the Atlantic Ocean. Egypt first fell under Mussulman control, and the standard of Islam was carried westward from the Nile. Thirteen hundred years after Battus founded Cyrene, the Mussulman Keirouan was built upon its ruins. In Tunisia, Algeria, and Morocco the Saracenic works multiply. One traveller in Tunisia describes a mosque with the walls overlaid with tiles of many patterns. Another, crossing Algeria, visits the mosque at Telemeen, and finds *azulejos* (from the Arabic for "varnished tile") equal to those of Granada, and tiling in blue, red, and yellow, again compelling a comparison with the works of the Moors in Spain. The brilliant domes and mosaic pavements of mosques and houses mark the Saracenic progress. Besides these, many examples of urns and other vessels of Saracenic fabrication have been found, colored in brown, yellow, blue, and green, in styles not far removed from the Persian. Viewed comprehensively, the pottery of Northern Africa (Fig. 164) would show pieces of local fabrication, and Persian styles and processes modified by removal from their eastern centre. What concerns us chiefly is that the Saracenic predominates. It is reasonable to suppose that the invaders, in order to decorate the edifices which quickly gave indication of their presence, sent for tiles to the seats of the industry in the East. Afterward, when the Mussulman power had been firmly established, factories were built, and a new industry rose among the conquered people. Imitations are mingled with works showing a developing originality. The Mussulman and Persian traditions become modified, and the symbolical meaning of the animals painted on the dishes and basins appears to have become obscure to the artists employing them as decoration.

Fig. 164.—Maghreb Urn.

A great deal of the African pottery can only be taken as a basis for conjecture. Its place of manufacture is unknown. Its style is peculiar and its coloring unique. It is not impossible that European art was paying the debt it had incurred to Southern teachers. Ceramic art travelled with the Saracens wherever they went. How far that was may be estimated from the fact that they conquered within eighty years as much territory as it had taken Rome four hundred years to bring into subjection. They crossed into Spain, Sicily, and Italy, and there planted settlements. A great deal has been said of the *reflet à métallique* and stanniferous enamel, and notably of the *discovery* of the latter in Italy. Both came from the East, and reached Europe through the Saracens. The employment of tin in producing a white opaque enamel was, as we have seen, known to the Egyptians, the Babylonians, and Assyrians. It does not appear to have been so highly esteemed as the silicious glaze by means of which the Persians worked their greatest ceramic wonders, but it was not forgotten. Fragmentary evidences of its use by the Saracens are found in the places which they passed, and it is, at least, more reasonable to suppose that through them the process reached Europe, than that it was rediscovered there. One is almost wearied with the endless conjectures on these matters. We find a certain art in the East. We trace the different channels of communication with Europe. We find Greece touching Asia Minor, trade binding Phœnicia with every port in the Mediterranean, Etruria bringing to her own ports the manufactures of Eastern experts, colonies settling in all manner of places and coming from many sources. It has been plainly demonstrated that the lines of intercourse cross and recross in a hundred different ways and directions. When, therefore, we have it proved to a demonstration that analogous knowledge was transmitted by certain routes, it is hardly worth one's while to discuss the European discovery of a process which we know did not originate there, however much it may have been improved.

The art which we call Hispano-Moresque might, therefore, with equal propriety, be called Persico-Spanish or Hispano-Saracenic. Spain was twice overrun by Mohammedan conquerors. In the eighth century (711) the Arabs subdued the Goths and founded the Caliphate of Cordova. It is both singular and disappointing that no ce-

ramic relic of this period has been found. The Spanish, even under the sway of Rome, had attained to a comparative excellence in the art, and the productions resulting from the union of original traditions with Arabian influences would have formed an interesting link in our history. The Arabians remained for about five hundred years, when, in 1235, the Moors overturned the Arab rule, and founded the kingdom of Granada. The Moors succumbed, in their turn, to Ferdinand and Isabella, in 1492, and between these two dates, 1235 and 1492, was the golden era of the ceramic art of Spain.

Meantime it is to be observed, as showing the possible and actual extent of Persian influence:

Firstly.—That under the Moorish sway a colony of Persians existed in Spain. This, according to Major R. Murdoch Smith, is attested by a document recently brought to notice by a Spanish traveller in Persia, assigning the town Rioja to the Persians as their place of residence.

Secondly.—That mosaic work has been found in Persia, composed of star and cross shaped tiles of different colors fitted together, and that similar tiles are made in Spain at the present time.

Thirdly.—That in Persia are found the prototypes of the Spanish style of ornamenting vaults with hanging-work, like plaster stalactites.

Fourthly.—That, according to Piot, "numerous Persian faience plaques and pieces of vases, resembling those of our own time, are found encrusted in the white marble of a church in Naples."

Fifthly.—That Mr. Drury C. Fortnum has found a specimen of Persian ware in the church of St. Cecilia, at Pisa. The piece is clearly Persian in style, black arabesques on a blue ground, similar to others found at Rhages.

Sixthly.—That the Saracens overran Sicily in the ninth century, and that a Moorish colony landed there some centuries later.

The corollary deducible from these facts is clear, viz., that in Persian art, as brought into Europe by the Moors, Arabs, or Saracens, and by the Persians themselves, we must find the bridge upon which to cross from the ancient arts of Assyria and Babylonia to those of Italy and Spain.

CHAPTER II.

GREECE.

General Character of Greek Ceramics.—Form and Color.—Borrowed from Egypt and Phœnicia.—How Original.—Unbaked Clay: Bricks and Statues.—Terra-cotta: Where Used.—Tiles.—Models.—Vessels.—Pithos.—Amphora.—Pigments used on Terra-cotta.—Rhyton.—Glazed Wares: Quality of Glaze.—Paste.—Enumeration and Description of Vessels.—Uses of Vases.—Chronological Arrangement.—Methods of Making Vessels.—Successive Styles of Ornamentation.—Figures.—Earliest Style.—Archaic Style.—Human Figures.—"Old Style."—Approach to Best Art.—"Fine Style."—"Florid Style."—Decline.—Classification according to Subjects Represented on Vases.—Reliefs and Statuettes as Decoration.

Were we to be guided solely by continuity in point of time and the succession of ideas, our next subject would be the art of Spain and Italy. We turn, in preference, to that of Greece. It claims the precedence due to priority of date. It holds also a position of what might be called isolation. Its general character has been indicated in the Introduction. The severity and simplicity of the taste of the Greek, and his indifference to effects in color, while permitting him to receive suggestions from Egypt and the East, led him to disregard those adjuncts of art which they held in highest esteem. To him beauty of form was everything, color little or nothing. The former he brought to such perfection that no advance has been made beyond the point he reached. Greek form embodies all that can be said of grace and proportion. We may imitate, but we can hardly hope to excel, what Greece accomplished in her early bloom. We may find prototypes in Egypt for some of her vessels (Fig. 165), but still her art, the culmina-

Fig. 165.—Early Greek Aryballoi. Egypto-Phœnician Style. (Trumbull-Prime Coll., N. Y. Metrop. Museum.)

tion of all that was best in preceding forms, is pre-eminently her own. We say this without disparagement to those who were her teachers. To Egypt, in particular, Greece turned, at a remote age, for instruction, and learned from Phœnicia and the other nations with which trade brought her into contact. In this connection the group (Fig. 166) of vases from Athens may be compared with the Phœnician from Cyprus. There are in the decoration the same geometrical designs, the same vertical concentric circles, the same animal figures which the Phœnicians drew from Assyria. But after making every allowance for suggestions from abroad, after conceding that Grecian art is the development of that which preceded it, and that it occupies a well-defined place in progressive history, we fail to find anywhere the equals of the best ceramic works of Greece.

Fig. 166.—Primitive Vessels, from Athens and Argos.

Taking them as a whole, they are divisible into unbaked; terra-cotta, or burnt clay, without a glaze; and glazed. The Greeks employed unbaked clay for bricks, statues, and several kinds of decoration. The former were used for city walls and buildings. Terra-cotta was devoted to similar purposes. It is not improbable that we may yet return, to a very considerable extent, to the ancient employment of this material in architecture. The Greeks made use of it for pillars, roofs, paving, bricks, friezes, cornices, lamps, statues, flower-pots, and numberless domestic and sepulchral vessels and ornaments. Bricks do not appear to have been held in very high esteem in building, but the custom of roofing with terra-cotta tiles was widely prevalent and of great antiquity. These tiles were occasionally embellished with

painted flowers, and designs in blue, red, and yellow. The terra-cotta figures vary in color from red to bright yellow, and are soft in texture and easily marked. Terra-cotta models were used in casting, and in the same material were made copies of statues, like those in plaster

Fig. 167.—Greek Vase, from Apulia. (Louvre.)

of Paris of our own time; and some painters were even accustomed to make terra-cotta models of the figures they afterward painted. Of the specimens which have come down to us a very great number consists of small statuettes of the gods.

The vessels of terra-cotta are either domestic or sepulchral. The

largest was the *pithos*, which, as we have seen, was large enough to hold a man satisfied with such limited domestic conveniences as Diogenes. There were also *amphoræ*, large vases, somewhat smaller than the *pithoi*; *phialai*, or saucers, plates, pots, and jugs. Of these the *amphora* occurs most frequently. Its name is derived from *amphis*—on both sides, and *pherein*—to carry, and it is so called because it had two handles, one on each side, to be grasped by the person carrying it. It is easily recognized (see Fig. 2) by its sharp base—so made to be stuck in the ground—its oval body, its long neck, and its generally heavy lip. The cover was conical, and sometimes the base is surrounded by a ring of clay to keep it more easily in an upright position. The height of the *amphora* ranged from three feet to over six feet, and it was used for holding wine, water, oil, and for storing figs and other edibles.

Fig. 168.—Head of Minerva, with Figure of Nike. (Prime Coll., N.Y. Metropolitan Museum.)

Various pigments were applied to terra-cotta, including white, red, green, and blue, the use of which, in painting statues and architectural decorations, formed a distinct branch of art. Colors are also found on sepulchral vases, some of which are further ornamented with applied bas-reliefs; that is, made separately, and fixed to the vase before drying. This practice was carried to such an extent as to represent a combination of the arts of potter, painter, and sculptor (Fig. 167). Closely allied to the cinerary urns were the vases intended solely for ornamental purposes. In one of extraordinary beauty, a large and finely moulded head of Pallas Athene is seen surmounted by a full figure of Victory. There are many of a similar character, representing female and animal heads. The latter are found in the *rhyta*, or drinking cups. The ornamental vases were often painted after being covered with a white slip: evidently the case with the piece (Fig. 168) in Dr. Prime's collection.

Before treating of glazed vases we shall give the leading denomi-

nations of all vases glazed and unglazed, and then the styles of decoration of the former as nearly as may be in their chronological order. They are said to be glazed, although the glaze is so slight that, as Mr. Fortnum says, "it leaves a barely appreciable effect upon the eye, beyond that which might be produced by a mechanical polish." It is altogether a very inferior kind of glaze, and is supposed to have been made from an alkali without any admixture of lead. The paste resembles terra-cotta, and varies in density, being in some cases scratched with ease, in others with difficulty. It can always be marked with iron. These facts are worth noting, were it only that that art may be thoroughly appreciated which, out of the poorest and commonest materials, has wrought forms of the most wonderful beauty.

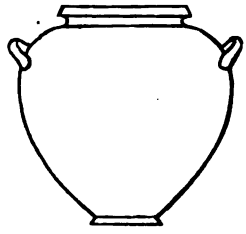


Fig. 169.—Stamnos.

The chief names with which we shall have to deal are the pithos, pithakne, stamnos, cheroulion, bikos, hyrche, lagynos, askos, amphoreus, kados, hydria, kalpis, krossos, skyphos, or kothon, rhyton, lekythos, alabastros, krater, holmos, kelebe, oxybaphon, psykter, dinos, chytrai, tripous, oinochoe, prochoos, aryballos, epichysis, kotylos, kyathos, skaphe, kantharos, karchesion, kylix, phiale, kanoun, pinax, and diskos.

Fig. 170.—Askos.

The *pithos*, already described in part, was a large, open-mouthed cask or jar of unglazed earthen-ware, which was used mainly for the preservation of victuals and wines.

The *pithakne* was a pithos of smaller size used for holding wine.

The *stamnos* (Fig. 169) was an open-mouthed jar with two handles, and a body inclined to be oval, but of great rotundity, curving inward to a comparatively narrow base. It held liquids. The *cheroulia* and *bikoi* were modifications of the stamnos, the latter being used for holding wine and solids.

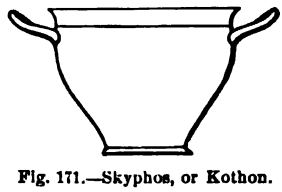


Fig. 171.—Skyphos, or Kothon.

The *hyrche* is not very well known, either in regard to its shape or purpose, but appears to have had a narrow neck, and to have been used in conveying goods a long distance. Its narrow neck is a tolerably sure indication that it was not intended to be stationary.

The *lagynos* also appears to have had a very narrow neck, and to have been of considerable size, varying according to circumstances.

Fig. 172.—Greek Rhyton.

The *askos* (Fig. 170), literally a wine-skin, which it resembled in shape, had an aperture and neck on one side, from which a handle passed over a hollow on the body to the other side. Both the *askos* and *stamnos* are frequently painted with red figures.

The *amphora*, already described in the form it commonly took, may be called a general receptacle, although usually employed for holding provisions and liquors. There were many different shapes, which varied according to the district where made, and the special purpose for which they were destined. The chief kinds are the Egyptian, Apulian, Tyrrhenian, Panathenaic, Bacchic (Fig. 186), and Nolan, the last mentioned being the most perfectly finished, and unexcelled in gracefulness of shape. They were decorated with either red or black paintings.

Fig. 173.—Krater, with Volute Handles.

The *kados* is the first of the vessels for drawing liquids, of which class the *hydria* (Fig. 188) is the best known. Its name implies its purpose as a

water-pitcher. It had two small side handles, and one larger one, somewhat similar to that of the modern ewer. The *kalpis* (Fig. 187) and *krossos* were modifications of the hydria.

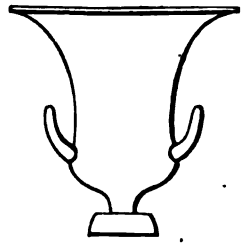


Fig. 174.—Krater.

The *kothon* (Fig. 171) is supposed to have been a drinking-cup.

The *rhyton* (Fig. 172) belongs to the later style of drinking-cups, and its peculiarity is that it could not be set down except when empty. The base is modelled after the head of a dog, goat, deer, or other animal, and the neck or cup proper is either cylindrical or elongated and sloped.

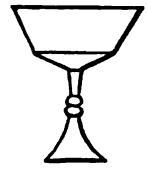


Fig. 175.—Holmos.

The *lekythos* (Fig. 305) was an oil-jar of an elongated shape, neck in proportion, cup-like orifice, and one handle. It is decorated in all the styles of Grecian art, and is generally about one foot in height. It was sometimes made of metal or marble.

The *alabastros* was a diminutive lekythos, used for toilet unguents, with two small ears by which to suspend it.

The *krater* (Figs. 173 and 174) was the vessel in which the Greeks cooled and mixed their wine, of which it would hold about three gallons. It is the later form of a class of vessels of which the *holmos* (Fig. 175), *kelebe* (Fig. 176), and *oxybaphon* (Fig. 177) are the earlier representatives.

Fig. 176.—Kelebe.

The *psykter*, or wine-cooler, was a double-walled vessel of the amphora type, rotund in shape.

Fig. 177.—Oxybaphon.

The *dinos* was another form of the wine vessel, open-mouthed, round in body and base, and allied to the krater.

The *chytrai* were warming-pots with two handles. The *tripous*, or three-footed pot, was employed in a similar manner.

The *oinochoe*, in the shape most frequently

occurring, resembled a jug with a lip either round or pinched in at the sides, and with a handle rising above the orifice. The oinochoe was used in serving the guests from the krater.

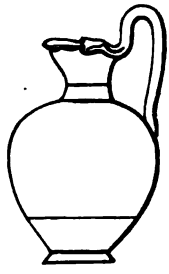


Fig. 178.—Prochoos.

The *prochoos* (Figs. 178 and 179) was also a jug, either with or without a handle, for either water or wine. The *olpe* (Fig. 180) belongs to the same class.

The *aryballos* (Fig. 165) was round or bladder-shaped and short-necked, and bore a close resemblance to one of the toilet vases of the Egyptians.

The *arystichos* was also used for serving from the krater, a usage which gave rise to several other shapes. Of the cups designed for the same purpose, the *kotylos* may be mentioned, although its shape is doubtful. The *kyathos* (Fig. 181), or ladle, belongs to the same class.

The drinking-cups were of many shapes and assumed great elegance of form. The several varieties cannot now be specified by description. The *skyphos* was the generic name applied also to a few special shapes now unknown. The *kantharos* (Fig. 182) was wide, somewhat shallow, with two handles rising well above the lip, and either with or without a stem.

Fig. 179.—Prochoos.

The *kylix* (Fig. 183) was the cup most generally used, and varied in shape. In the earliest specimens it has a long stem, two handles, and is shallow and wide. The later forms are wider, and shorter in the stem, which ultimately disappears entirely. The *phiale* was the religious counterpart of the kylix.

Fig. 180.—Olpe.

The *kanoun*, *diskos*, and *pinax* were for table use, the two latter corresponding with our plates, with the exception that the diskos stood upon a stem or foot.

Of the vessels named those deserving closest attention, as most frequently presenting themselves, are the kylix, oinochoe, krater, aryballos, kyathos, lekythos, rhyton, hydria, amphora, and pithos. The kylix is to be specially commended for its beauty of shape, and its decoration with red figures exemplifies some of the best art of Greece.

From the descriptions given of the various vessels, it will be seen

that many of them were devoted to household use. Vases were also made as toys for children, as prizes to victorious athletes, for holding the viands and liquids placed beside the dead, and more recently for the ashes of the dead. Among the exceptional uses of pottery by the Greeks may be mentioned the giving of receipts on potsherds, the recording on fragments of pottery of votes for ostracizing (from *ostrakon*, a potsherd) a citizen, and for deciding the side to be taken by the entrants for the game called *ostrakinon*. This last was decided by "tossing up" a piece of pottery, and assigning a side to the player according to its falling with the red or black side uppermost. Vases were also made in honor of great men and authors, whose names are inscribed on them. All the vases now in museums, numbering, according to different estimates, from twenty to fifty thousand, were taken from the tombs of Greece, Southern Italy, and Etruria. It was the custom to place beside the dead the vessels necessary for the religious rites, the favorite vases and prizes of the deceased; and in this way they have been preserved to illustrate in our age the branch of Greek art to which they belong. No precise age can be ascribed to any one specimen.

Fig. 131.—Kyathos.

Fig. 132.—Kantharos.

The first glazed vases date probably from the ninth century before Christ, and from the beginning of the third century

the art declined. It had probably reached its highest point four hundred years before our era.

The earliest vases were made by hand, and even after glazing was introduced that method was continued. It was also resorted to in making the gigantic *pithoi*, which were too large to be turned on the wheel. The finer vases were made on the wheel or moulded. After being moulded they were dried and painted. There were two methods of painting. By the first the figures were outlined and then filled in, leaving them black on a red or pale ground. The vase was then glazed and fired. By the second the figures were left untouched and of the color of the paste, by painting the ground black. A color slightly different from that of the body was employed for the finer lines of the figures. The vase was then glazed and fired as before.

Fig. 183. — Kylix. Black on Red. Female Faces and Feet White. Naked Satyrs. (Trumbull-Prime Coll., N. Y. Metrop. Mus.)

We now come to the successive styles of ornamentation. The natural order would give the first place to the uncolored vases, the second to those painted all over in black, the next to the different styles of figures. In addition to what has been said in the Introduction, and to go more deeply into details, the following points may be noted in regard to the last of the above stages — the ornamentation by means of figures. These first took

Fig. 184.—Early Greek Oinochoe, showing Phœnician Influences. About B.C. 700-500. (Trumbull-Prime Coll., N. Y. Metropolitan Museum.)

the form of simple belts of color drawn round the body of the piece. A vase of a later but still very early period has the space between the two zones passing round the widest part of the body filled in with vertical designs, alternating with small rings, each containing a cross (see Fig. 166). When animal and floral decoration was first attempted, the artist's work was rude and the forms were unnatural. White upon black grounds indicate the earliest style. Another very ancient style has the figures, which are all those of animals, painted in dark lines upon the pale red paste (Fig. 184).

Fig. 185.—Greek Oinochoe. Painting, Black and Reddish Brown. Height, 7¼ in. (Appleton Coll., Boston Mus. of Fine Arts.)

The vases of the next, or Archaic, group vary in color from a pale yellow to a deep red, on which the figures are painted in a darker color. One of its leading features is the profusion of flowers. The presence of human forms, more or less skilfully drawn, may be taken as the criterion by which to determine the later members of this group.

Fig. 186.—Bacchic Amphora. Black on Red Ground. Height, 15 in. (Appleton Coll., Boston Museum of Fine Arts.)

In the next style (Fig. 186) human figures become more prominent in the designs, and are perfectly black, with the exception of the flesh of females, which is painted white or red. Many of the subjects are taken from mythology and the heroic legends. This developed into the "old style," where the black appears greatly improved; and while the hands, face, and exposed parts of the females are pure white, their eyes are red. The drawing is still stiff and constrained, and where attempts at perspective are made, they are eminently unskilful. White is also more plentifully distributed, and is seen in the hair and beard of old men, in horses, and in many accessories, for which red is also occasionally employed. As

the art developed, red figures were more frequently introduced among those in black; and we also find the artist entirely obscuring the natural color of the paste by means of a white slip, or coat, upon which he painted the black figures.

As we approach the best art of Greece the colors are inverted. The figures are drawn upon the paste of the red or yellow color of which they appear, and the rest of the vase is painted black (Fig. 187).

The "fine style," the culmination of Greek art, was a development of that last described. The black ground, red figures, and white ornaments show the highest point to which previous styles gradually led upward. Drawing and composition are here at their best. The early stiffness has given place to a fuller grace, and there is a nobility in the figures and faces to which the earlier artists never attained. The limbs lose their unnatural distortion, the muscles are less rigid—there is, in one word, more life in the drawing. The accessories also gain by the greater freedom of treatment. The drapery hangs more gracefully, its straight-lined stiffness giving place to a more natural arrangement.

Fig. 187.—Greek Kalpis. Red Figures on Black Ground. (Appleton Coll., Boston Museum of Fine Arts.)

In the later specimens of this style—so markedly different from the earlier ones that they have been classed together as the florid style—there is a more minute attention to finish, a greater elaboration of dresses and other accessories, and a decided tendency toward finding the ideal human form in that which is most graceful. Gold appears in the ornamentation (Fig. 188), and arabesques encircle the necks. Polychrome vases were made at the same time, some of them showing the utmost excellence of figure-drawing, and draperies of blue, green, or purple.

When the art began to decline, taste and execution both deterio-

rated. The figures lose their graceful proportions, and acquire a heavier appearance. They are also more crowded, and the dresses become more garish, until at last all refinement, both of conception and treatment, was lost in coarseness and grotesque puerility. The amphora (Fig. 189) illustrates the decadence.

Fig. 188.—Hydria. Black, with Gilt on Neck, and Red Rim with Black Studs. (Trumbull-Prime Coll., N. Y. Metropolitan Museum.)

The classification of vases by the subjects represented upon them is unsatisfactory and confusing. Scenes are taken from mythology, heroic legends, funeral ceremonies, from civil life, and from the gymnasium, which permit neither of a chronological arrangement of the vases nor of one based upon their position in the scale of art. A distinct group might, without any loss of lucidity, be made of vases decorated with subjects in relief, or with statuettes arranged upon the body and neck. This was a union of sculpture and pottery occasionally embellished by the painter's art in the coloring of the drapery and subsidiary ornaments. Color was also applied to sculptured reliefs. A vase now in St. Petersburg is thus described: "It is a piece of very large size, with three handles, and of the finest and most lustrous glaze. It is ornamented at several heights with sculptured friezes in terra-cotta, and gilded; but that which gives it its priceless value is a frieze of figures from four to five inches

Fig. 189.—Greek Amphora, with Columnar Handles. Red on Black. From Canosa. Height, 20 in. (Appleton Coll., Boston Museum of Fine Arts.)

high, sculptured in bas-relief, with the heads, feet, and hands gilded, and the vestments painted in bright colors—blue, red, and green—in the finest Greek style imaginable. Several heads from which the gilding has become detached show the modelling, which is as fine and as finished as that of the finest ancient cameo." Cups or vases with two heads, one on each side, such as Hercules and Omphale, illustrate the same branch of art. Such features as these, beautifully modelled relievos, ideal heads, figure scenes in which drawing and composition are almost above criticism, not less than its elegance of shape, have made the Greek vase a model for all time. We can trace Assyrian ideas in the decoration of some of the earlier vases, and Egyptian influences may also occasionally be detected. We can even find foreign models for a few of the Greek forms; but the Hellenizing process has obliterated every antecedent, and the art which Greece gave the world is as purely Grecian as if in every particular it were indigenous to the soil of that favored land.

CHAPTER III.

THE IBERIAN PENINSULA.

SPAIN: Ancient Pottery.—Valencia the Most Ancient Centre.—The Roman Period.—Arabs.—Valencia under the Moors.—Its Decline.—Malaga the Most Ancient Moorish Settlement.—The Alhambra Vase.—Influence of Christianity.—Majorca.—Azulejos.—Modern Spain.—Porcelain.—Buen Retiro.—Moncloa.—Alcora.—PORTUGAL: Vista Allegre.—Rato.—Caldas.

A MERE glance is all that is necessary to bestow upon the ancient pottery of Spain before we resume the history of the Moorish fabrications in that country. Valencia is the centre to which the greatest antiquity must be accorded. Pliny alludes to Saguntum, now called Murviedro, as having twelve hundred potteries, and Martial is not stinted in his praises of their work. All the remains found there are of the Roman period, and are classed under red Samian ware, and three other groups, of which one was of a yellowish color and another of pale terra-cotta. From that time we must make a great leap across the chasm between the downfall of Roman civilization and the first Saracenic occupation of the Iberian Peninsula in the eighth century. Even then there is little to guide research. Arabian azulejos have been met with, and in 1239, four years after the Moorish kingdom of Granada had been founded, a charter was granted by James I. of Aragon to the Saracen potters of Xativa (San Felipe) relieving them from servitude on payment yearly of one besant for each kiln. We have no means of iden-

Fig. 190.—Hispano-Moresque Vase. End of 13th Century. (S. Kensington Mus.)

tifying the early works of these Saracenic workmen, and it is not until 1517 that they are referred to in literature as producing well-worked and well-gilded faiences, more highly esteemed than any other of Spanish manufacture. Several writers of the sixteenth century praise the Valencian pottery, but in the beginning of the seventeenth century it began to decline. Christian designs (Fig. 191) take the place of Moresque; and at the present day, according to Marryat, the metallic-lustred wares of Manises, near Valencia, are made by an innkeeper, who thus spends the time lying heavy on his hands by reason of a lack of guests in his inn. In the olden time the pottery of Manises was exchanged with Italy for that of Pisa, and was ordered by "the Pope, cardinals and princes admiring that with simple earth such things can be made." Such is the difference between now and then.

Fig. 191.—Spanish Majolica. Dark-blue and Brown Painting on White. (J. W. Paige Coll., Boston Museum of Fine Arts.)

From the style of the decoration it would appear that most of the Valencian remains are to be attributed to the Christian period, *i. e.*, after the thirteenth century. The general color is yellow with mother-of-pearl lustre. St. Catherine and St. John were highly venerated in Valencia, and this veneration appears in the frequency of their representation, either actually, or by their emblems, or in invocations and passages from the gospel of the fourth evangelist. The eagle—the emblem of St. John—and the opening words of his gospel appear also, however, on wares from Malaga and Majorca; and, further, the yellow lustre was produced at Barcelona. It is, therefore, evidently unsafe to ascribe, after an examination of general characteristics, individual specimens to a specific source.

Of the Moresque pottery it is probable that Malaga was the most ancient centre. Its golden pottery is spoken of as an article of export

as far back as 1350. There also we are brought into contact with the famous and beautiful vases of the Alhambra (Fig. 192). The palace itself was built by Mohammed-ben-Alhamar, the first Moorish king of Granada, in 1273, with the intention, possibly of rivalling the richly decorated mosques of the Mussulman Arabs. The Alhambra vase is the only survivor of three of similar style found under the palace pavement. The others fell victims to the Vandalism of memento or relic hunters. The one still in existence is seven feet in circumference and four feet three inches in height. It is supposed to belong to about the year 1320. It is made of earthen-ware, and is decorated in three colors. The ground is white and the decorations are a golden yellow lustre and blue. The vase is not only a masterpiece of Moresque art, but a magnificent example of the decorative genius of the Moors, which spent itself in devising quaint combinations of lines and in a wealth of arabesque. There are many other pieces which, from their metallic lustre and blue ornamentation, are also credited to Malaga, and date from the middle of the fourteenth century. It is unfortunate that this exquisite art soon deteriorated. As we approach the Christian epoch we come upon the works of copyists devoid of intelligence, in whose hands the decoration they strove to follow loses its delicacy and meaning. The Valencian art with which we are acquainted was thus rising as that of Malaga was gradually sinking out of sight. Faience was made at the latter place in the beginning of the sixteenth century. For a time the Catholic conquerors under Ferdinand tolerated the art. But intolerant zeal asserted itself, Moorish customs were suppressed, and at length the Moorish settlers were driven into exile.

Fig. 192.—The Alhambra Vase.

The third great centre of the ceramic art was at Ynca, in Majorca, the largest of the Balearic group of islands. Majorca was conquered by James I., in 1230, nine years before he took Valencia; and no Moresque specimen now known can be ascribed to a period preceding that date. The lustre of Majorca was very bright, and the ornamentation consisted mainly of scrolls and flowers. The other islands of the group, Minorca and Iviça, were also seats of the manufacture. We shall afterward see how closely Majorca was connected by its commerce with Italy.

Fig. 193.—Hispano-Moresque Plaque in Frame. Diameter, 16 in. Copper Color on White: Metallic Lustre. (Wales Coll., Boston Museum of Fine Arts.)

We have reserved the azulejos, or tiles (Fig. 194), the best indicators of the progress of Arabian art, for separate treatment. We find in the tiles of the Alhambra, in the buildings of Seville and the Cuarto Real of Granada (Fig. 195), the products of the same skill which embellished the edifices of Persia, Arabia, and the Maghreb. They are made of light-colored clay, covered with a stanniferous enamel, upon which are laid intricate designs in blue or golden lustre. The brilliant and dazzling beauty they lent to the interior of the Alhambra, from pavement, walls, and roof, can now only be imagined. So much did the Spaniards admire the azulejos, that they were employed, not only for the embellishment of public and royal edifices, but for the houses of the wealthy. Their manufacture is continued in Valencia down to the present day.

Fig. 194. — Early Hispano-Moresque. (Boston Household Art Rooms.)

From what has been said, the chronological sequence of the Hispano-Moresque potteries may, in part, be inferred. The most ancient is that resembling the Alhambra vase, decorated with blue and yellow lustre. As we come later down, the lustre

assumes more of a golden hue, and becomes exceedingly brilliant, as we find it at Valencia, when the less dazzling wares of Malaga were falling into disfavor. The ruddier copper lustres are the farthest removed from the early wares. They excel in brightness, and show less restraint and chasteness of taste, and mark the decline from those works which have given celebrity to Hispano-Moresque pottery.

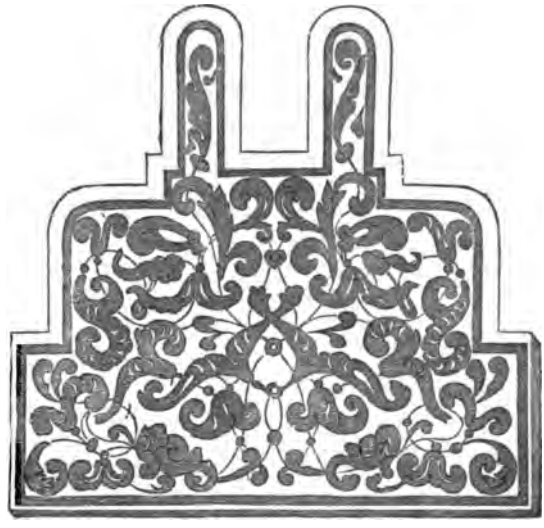


Fig. 195.—Moorish Tile, from the Cuarto Real.

The Spain of our day retains not even a semblance of its former greatness. What is best in its modern art, such as the terra-cotta of Barcelona, contains no tradition of ancient times. At the Centennial Exhibition, it was, as compared with leading European countries, poorly represented. It may be assumed that Seville, famous for its azulejos from the sixteenth century, and Valencia, which has an unwritten continuous ceramic history from the Roman epoch to the present day, would not send their inferior works to America. The former city was represented by a pyramid of wares showing great diversity of design and decoration. A large vase, best described as after the Alhambra type, was of a yellow lustre, and surrounded by narrow gilt bands. There were also a few smaller pieces of iridescent blue, green, and gold. A pair of vases with floral decoration on a red ground and black base hardly suggested relationship with the works exemplifying the exquisite taste of ancient Spain.

Fig. 196.—Early Hispano-Moresque. (Boston Household Art Rooms.)

The Valencian tiling was, as a rule, coarse and inartistic. On a series of wall-pieces were figures of some of the apostles, and a landscape, fairly drawn, but weak in color. The artist manifested an unfortunate predilection for a shading of brownish purple, which enhanced neither his figures nor landscapes. The old style of mosaic tiling was represented by some specimens composed of small star-shaped and elongated hexagonal tiles. There was no sign of the preservation of even a tradition of Hispano-Moresque art. We may turn to Spanish history for an explanation of this decadence, and find in the latter an illustration of its history. Its art was essentially foreign; and when it fell entirely into the hands of the Spanish, on the expulsion of the Moors by the bigotry of Philip II., its doom was sealed. We read the history of the ceramic art during its best days in Spain as an additional chapter to the Saracenic and Maghrebrian, and as that of a branch which, by the accident of location, and not from its having any element really Spanish, came to be known as Hispano-Moresque.

We nowhere find any literary evidence that the Persians who settled in Spain exercised any practical influence upon its ceramics. Very likely they did; and, further, it is not improbable that commerce may have brought Spain into a closer connection with the East than is generally suspected. The early Hispano-Moresque works are so clearly suggestive of Eastern influence, that one is almost led at times to question their right to the name conferred upon them. As if to give the half-shaped doubt a more decided form, we remember also that as the art becomes more purely Spanish it declines from its ancient beauty. We can only admire and criticise the odd combinations of color and form; and while indulging in conjectures as to the immediate fabrication of the pottery under consideration, we must regard it as illustrative of the development of an art of Oriental origin.

The manufacture of artificial porcelain in Spain was instituted, about 1760, by Charles III., who took with him a number of workmen and artists from Naples. This accounts for the similarity between the Spanish and Neapolitan productions. The works were situated in the gardens of the Buen Retiro at Madrid, and were kept strictly secluded from visitors. The ware was of fine quality, and was said by some writers who had seen specimens at the palace, to rival that of

Sèvres. La China, as the Royal Manufactory was called, was blown up by Lord Hill during the Peninsular War, in 1812. A second manufactory was established at Moncloa, near Madrid, in 1827. Mention is also made of a factory of natural porcelain at Alcora, in 1756, but the reference must be accepted with hesitation.

Of the ceramics of Portugal very little is known; but that little is sufficient to lead us to wish for more exact knowledge. In this matter, Portugal has not yet, in fact, been appointed to any recognized place in history. Her ceramic art has not been known to Europeans for more than ten years, and to Americans for little more than one; and we have no means of telling whence it was derived. Probably it came from Spain, as we learn that the Portuguese use azulejos as extensively as the Spaniards. We are further told that many of their imitations are exceedingly clever. Of the truth of this we have had ample evidence. None of the imitation Palissy ware exhibited at the Centennial was more realistic and full of life than that of Portugal. Some majolica vases, with coiled snake handles, were very creditable. The snake evidently plays an important part in Portuguese ceramics, as we met with it elsewhere, and notably as the handle of a fish-shaped dish. Very remarkable were the unique and droll little figures of painted pottery, sometimes grouped into a humorous scene, sometimes single, and illustrative of the national costumes. The humor which the Portuguese contrived to infuse into their art evidently lent the pottery section of their department at the Centennial its greatest attraction; and combined as it was with excellent modelling and colors, the nature of which we can hardly specify, it excited our curiosity to learn what historical background there may be to the art which now chooses such expression. A natural porcelain factory at Vistá Allegre, near Oporto, is mentioned, and the faience fabrics of Rato and Caldas.

CHAPTER IV.

ITALY.

Italian Art.—Whence Derived.—Greece and Persia.—Divisions.—Ancient Roman and Etruscan.—Etruria and Greece.—Questions Resulting from Discoveries at Vulci.—Early Connection between Etruria and Greece.—Etruscan Art an Offshoot of Greek.—Examples.—Best of Black Paste.—Why Etruscan Art Declined.—Rome.—Nothing Original.—Its Debt to Etruria and Greece.—Decline of its Art.—Unglazed Pottery and its Divisions.—Glazed Pottery.—Samian Ware.—Aretine.—Terra-cotta.—After Rome fell.—The Renaissance.—Saracenic Influences.—Crusades.—Conquest of Majorca.—Tin Enamel and Metallic Lustre.—Bacini at Pisa.—Lead Glaze.—Majolica Made at Pesaro.—Sgraffiati.—Luca della Robbia.—Sketch of his Life.—His Alleged Discovery.—What he really Accomplished.—Where he Acquired the Secret of Enamel.—His Works.—Bas-Reliefs.—Paintings on the Flat.—His Successors.—Recapitulation of Beginnings of Italian Majolica.—Chaffagiolo.—Siena.—Florence.—Pisa.—Pesaro.—Castel-Durante.—Urbino.—Gubbio and Maestro Giorgio.—Faenza.—Forli, Rimini, and Ravenna.—Venice.—Ferrara.—Deruta.—Naples.—Shape and Color.—Modern Italy.

The ceramic art of Italy, beginning with the Roman and Etruscan, and coming down to the Renaissance in the fifteenth century, is the successor of those of Greece and the East, on the one hand, and of the Saracenic and Hispano-Moresque on the other. There have been two questions under discussion in reference to the latter period, viz., Where did Italy acquire her knowledge of the use of stanniferous enamel? and, Whence did she draw her skill in the application of metallic lustre? We shall find, on examining the evidence, that the great works of her artistic prime were the results of a derivative and not of an original art. They are only original in so far as they indicate a point in advance of Italy's predecessors. We have said that Oriental art culminated in Greece. Italy presents us with a later point of union between two lines issuing from the East. We find subjects and forms recalling at once the ideals of Greece and the rich mythological and legendary sources from which were drawn the aids to her prolific imagination. We also find that the Greek restraint in the use of colors is thrown aside, and that Italy availed herself to the full of the skilful

processes and methods of embellishment brought to her shores from Persia, and by the Saracens and Moors from their settlements in Africa and Spain.

There are thus two great divisions of Italian pottery: the ancient Roman and Etruscan, and that of the Renaissance. Between these two there is a long period of darkness, extending from the last smouldering glow of the art of Italy, after Constantine took the seat of the imperial power to Byzantium, to the entrance of the Saracens into Europe.

In considering the ancient epoch, one pertinent fact may be borne in mind, viz., that the best remains of the art of Greece have been found beyond its own borders, and that its history might be written from those discovered in Italy alone. Dividing Italy into three sections, we shall have Magna Græcia, Campania, and Etruria. Of these the latter has the greater antiquity, in so far as its ceramic remains are concerned. Greek colonies settled all along the southern part of the peninsula and in Sicily, and such relics as are found there may, in the mean time, be dismissed as corresponding in style with those of the same dates produced in Greece.

Although the same rule might be held in a less broad sense to apply to Etruria, it is deserving of more lengthened consideration. When, in 1825, the great discoveries were made at Vulci, the learned world was divided as to the places to which the vases should be credited. Some maintained that they were made in Greece and imported; others, that they were made in Etruria by Greek workmen; others, that they were really Etruscan; others, that they were partly native and partly imported from Greece; and still others, that many of them came from Magna Græcia and Sicily. To reconcile these suppositions, without affecting the eastern origin of Etruscan art, we are reminded that the Pelasgi—the name given to the ancient inhabitants of Greece—founded Agyllos, on the coast of Etruria. Bunsen places the first introduction of art into Etruria at this remote period. We come next to the arrival of Demaratus in Tarquinii, about the year B.C. 655. Demaratus was a wealthy Corinthian, of the family of the Bacchiadæ. On the usurpation by Cypselus of the government of Corinth, Demaratus fled, accompanied by all his family, and, landing in the above named flourishing city, married an Etruscan bride, and by her had a

son, Lucumon, who afterward occupied the throne of Rome under the name of Tarquinius Priscus, the fifth king of the Romans and the first of the Tarquins. Demaratus was either accompanied or followed by certain of the artists who had brought celebrity to Corinth for its pottery, and thus the art of Greece, as it was at that period, might have been introduced into Etruria. It must, however, be admitted that the story of Demaratus is not as clear as might be wished, the authorities differing as to his status in Corinth, and as to Lucumon, who is considered by some as having been merely one of his companions. The Tyrrheno-Pelasgians were driven from the sea-coast probably in the sixth century before Christ. We would from these facts be led to expect specimens of ceramic art, firstly, rude and indigenous; secondly, showing signs of the same Oriental origin from which Greece derived its first lessons; and thirdly, examples of pure Greek fabrication mingled with Etruscan imitations. In regard to such a collection as that found at Vulci, it may thus be assumed that there is a modicum of truth in each of the suppositions above referred to. There cannot, in any case, be any reason for calling in question the statement that, in the main, Etruscan ceramic art was of Grecian birth. We are speaking of the productions of 2300 years ago. Etruria was open to the little world surrounding the eastern end of the Mediterranean. Its ships brought enamelled bottles from Egypt, which its citizens set in gold and placed in their tombs. It had maritime connections with Spain, Phœnicia, and perhaps with England, and with the southern ports of the Italian peninsula, and those of Sicily. It imported both potters and their wares, and turned from its own ancient standards to a higher. While the immigrant Greeks were making such wares as they had made at home, the native Etruscan artists were imitating, clumsily and awkwardly at times, but gradually improving and approaching their teachers more nearly. Etruscan art, with the exception of the earlier specimens of rude aboriginal skill, must, therefore, be studied as an offshoot of that of Greece.

The oldest examples, more distinctly indigenous than any of the succeeding styles, are of a brownish color and rude shape, and are decorated with bands and knobs or studs in relief. One peculiar shape bears a resemblance to a miniature rustic cottage, and belongs to the sepulchral class. Others, which are painted, recall the art of Greece

in its first devotion to Phœnician or Egyptian models. They may, therefore, be referred to the age when the Tyrrheno-Pelasgians still held their settlements in Etruria, and are probably the work of these settlers and of the aboriginal inhabitants who preceded them. When the Etruscans overran the settlements of the Pelasgi, a red and black ware was introduced, and soon afterward we are brought more directly into contact with Grecian art by importations.

Fig. 197. — Ancient Etruscan Vase. Height, 21 in. (J. J. Dixwell Coll., Boston Museum of Fine Arts.)

The best Etruscan works are of black paste (Fig. 197), toward which the brown changed as it improved. The ornaments are incised flowers, and bas-reliefs of animals and human faces, executed, designed, and arranged in styles decidedly Oriental. On one found at Vulci are monsters like the Egyptian sphinx, winged and woman-headed. It is probable that, of the two styles of ornamentation, the incised is the more ancient, and that the black ware, as a whole, belongs to between the seventh and third centuries before Christ. The prevalence of Egyptian forms and symbols in connection with this class, such as the scarabæus and ostrich eggs painted with strange winged monsters, gives additional probability to our estimate of their age, and shows how far Etruria availed herself of the act of Psammetichus I. of Egypt, who, B.C. 654, threw open the ports of that country to foreign traders. Contemporaneous with these are large vases of red ware corresponding with the Greek *pithoi*. The decoration displays a knowledge of the art of Egypt and the East, mingled with examples of that of Greece. The yellow ware is allied to the Doric; and specimens of a still paler color, ornamented with Grecian subjects, modified and adapted to Etruscan ideas, mark the close of the art. It at no time attained to any very great excellence, and declined early. Both of these facts are easily explained. In the wonderful collection of Signor Alesandro Castellani are many beauti-

ful specimens of Etruscan bronze, carved gems, and work in gold. These are ascribed to the third, fourth, and fifth centuries before the Christian era; and it is only natural to suppose that the delicate skill acquired in the manipulation of such materials should have given rise to a distaste for the humbler though more obedient clay. Many of the vases suggest the transition from pottery to bronze in the evidence which their decoration gives of having been imitated from metal.

When we turn to Rome, little investigation is required to satisfy us that there is no such thing as an independent Roman ceramic art. Whatever Rome possessed was acquired from without, not developed from within. One could expect no artistic sense to manifest itself among the horde of refugees, outcasts, and criminals who surrounded Romulus in his little castle on the Palatine hill. His successor, Numa Pompilius, in aiming a blow at idolatry, may have also retarded the growth of art. He forbade the use of images, and for one hundred and sixty years after his death no statue appeared in the temples of Rome. This brings us down to the Etruscan monarch, Tarquinius Priscus, who placed in the Roman capitol a terra-cotta statue of Jupiter, by an Etruscan artist. Whatever the Romans required they obtained from Etruria, until they found a new source of supply in Magna Græcia. That they made very slow progress in the arts may be inferred from one incident which happened nearly five hundred years after Numa had issued his order against idolatry. While the second Punic war was raging, the Roman consul, Marcellus, besieged Syracuse, a Corinthian city in Sicily, and, after taking it, sent its paintings and statues to Rome, in order that his countrymen might learn from the art of Greece, and acquire a taste for such works. Syracuse fell B.C. 212, and eleven years afterward the war was brought to an end. It was by thus acquainting themselves with the beauty of Grecian art that the Romans began to display a desire for the artistic embellishment of their homes and capital. When their arms were directed against Greece, and Athens fell under their assaults, in the first century before Christ, Greek artists flocked to Rome, and for a time made it the workshop in which they labored and the school in which they taught. But with the sun itself its rays of golden light must disappear, though for a time they gild the earth and clouds with their departing glory. Greece was enslaved. Her ancient spirit was crushed. She had

taught the world the lesson intrusted to her, and with political independence sank art and literature, though not without leaving imperishable monuments behind. As the tree withered, so did the branches; and the expatriated Greeks in Rome and the long-subdued colonies of Magna Græcia, deriving no longer any warmth from the centre from which they came, were quickly lost to sight. There also, as in Etruria, richness took the place of beauty. Gold, silver, and gems were more to the luxurious Romans of the empire than ceramic art, and that which had embellished the palaces of kings was left to the gods and the poor.

Fig. 198.—Roman Terra-cotta Lamps.

The different kinds of unglazed Roman ware may be divided, according to the color of their pastes, into yellowish white, red, gray, and black. The yellow paste was the coarsest, and was used for large pieces, such as the *dolia* and *amphoræ*. The smaller pieces of this color are of a better quality. Many of the household vessels were of red ware, such as plates, bottles, and jars. Some of it, as, for example, the false Samian, was dipped in a slip. The gray class comprises *amphoræ* and flat cooking-pans, and includes some specimens which have all the characteristics of modern stone-ware. The black paste was largely employed in making dishes and other table utensils, such as cups and candle-sticks.

Fig. 199.—Roman Bowl of Samian Ware.

The leading kinds of glazed pottery were the Aretine and red Samian wares. The latter of these is the more celebrated (Fig. 199). Its prototype is to be found in the red ware of the Greek islands. The paste is close and fine, and the glaze is clear and very thin. The similarity in texture of all the specimens points to the conclusion that

they were made in one place. The Samian ware has, like the legionary tiles, been found wherever the arms of Rome were carried. Like the unglazed red pottery, it was extensively used for table services, and may broadly be said to have been the chief domestic ware of the Romans. The ornamentation consists of mouldings in relief, incised rings, and intaglio patterns.

The Aretine ware is also red, and is very like the Samian in many respects, but of a lighter shade, and more finely decorated, chiefly in relief. There are also two kinds of black Roman ware, one of dark paste, the other of red paste colored black. The ornamentation of the first is generally very simple, while that of the latter, in some cases, resembles the mouldings on red ware. Like the Samian, it is found over the greater part of Europe.

One of the most interesting branches of Roman ceramics—the various uses of terra-cotta, we pass with a brief reference. The oldest statues are terra-cotta, and of the same material are water spouts, window frames, friezes, capitals, and pillars. Terra-cotta statues were made from the early days, when Etruria was the centre from which Rome supplied itself, down to the Empire, although in the interim the conquest of Magna Græcia and Greece had rendered the beautiful Greek marbles and bronzes accessible to the Romans. The architectural bas-reliefs were highly esteemed by the Romans themselves, and show that the Greeks, both at home and residing in Italy, applied themselves to this particular branch of art with devotion and success. The subjects are generally Greek, and are taken from both mythology and history. The gods of both greater and lesser orders appear under many of the characters ascribed to them, and the adventures of Ulysses and Achilles, the feats of Theseus, and the labors of Hercules, are a never-failing treasury of effective subjects.

The result of all our inquiries may be summed up in this contradiction, that Roman ceramic art deserving of the name is Greek, and that the potters who were Roman have left little beyond household wares to attest their skill.

With the fall of the Roman Empire the art, which had long been declining, disappeared from view. Pottery must, no doubt, have been produced. The household necessities of the people must have been satisfied, even amidst internal disruption and barbarian invasions; but

there is no evidence that anything worthy of being called an art was kept alive. The revival of the ceramic art of Italy must be dated from the time of Luca della Robbia, in the fifteenth century. To account for the forms it took, an endeavor must be made to join it on to the different branches which preceded it elsewhere. The only danger to be incurred is that of being confused by the multiplicity and yet substantial unity of its sources. Without repeating what has been said in the chapter devoted to the fountains of European art, let it be remembered that, in the year 827, the Saracens conquered Sicily, and that they introduced into that island a manufacture similar to that found in Spain. They embellished the mosque of Palermo with tiles like those of the Alhambra, and these tiles were afterward imitated in works produced in Sicily itself. Afterward, in the fourteenth century, Moorish works were established at Calata Girone, or Caltagirone, in Sicily, and some pieces attributed to them are decorated with copper lustre upon stanniferous enamel. To this period belong the Siculo-Moresque vases in the Castellani collection, which date from the fourteenth century downward (Fig. 201). It is observable that the metallic lustre does not appear in the earlier pieces, which have an unmistakably Persian style of decoration. One specimen will suffice, viz., an oval vase covered with a silicious glaze, and decorated in blue and black, with gazelles and inscriptions. Meanwhile Venice and other maritime cities on both sides of the Italian peninsula were developing an extensive trade with the East. The Crusaders had been converting the old battle-ground of the Jews into the scene of another strife, in which Judaism was ignored. Mohammed preached the gospel of the sword, and the Christians took up the gauntlet thrown down by the Saracens. Is it not possible that by these two courses—trade, and the movements of followers of the Cross—some inklings of Persian art may have crept into Italy?

Fig. 200.—Siculo-Moresque Vase.

The crusading spirit of the twelfth century was a most potent

agency. In 1113 the Pisans were roused to a sense of the wrongs suffered by Christians from the piratical Saracens of Majorca. They set sail, and in 1115 the island was in their power; and their galleys returned home freighted with the spoils of war. An extensive trade

Fig. 201.—Siculo-Moresque Vases. (Castellani Coll.)

between the Balearic Islands and Italy was maintained in the fourteenth century. Looking at these facts, does it appear improbable that Moorish wares and Moorish potters may have reached Italy from Majorca? Coming still later, we find Moorish refugees from Spain flocking toward Italy in vast numbers. Leaving the Saracens and Moors entirely out of the question, the art of enamelling might have reached Italy from the Byzantine Greeks.

With all these facts before us, the bacini, or plates found incrusted in the walls of the old churches of Pisa, need give us little trouble. Mr. Fortnum found one Persian piece. Mr. Marryat thinks them of Moorish origin. Mr. Fortnum is of the further opinion that many of the bacini, both of Pisa and other Italian cities, are of native Italian manufacture. Each specimen must be judged separately, and it may be pointed out that with the highway of the sea open to the East and to the Saracenic settlements in Africa and Spain, with Saracens already settled in Sicily, and with the known early connection by commerce between Italy and Spain, it is difficult to specify the route by which any special ware or process *must* have reached Italy. We shall afterward see that in Germany tin enamel was known in the thirteenth century. If it should be asked, How did it get there? the

question would illustrate a good deal of idle speculation indulged in regarding its introduction into Italy. The same rule will apply to the metallic lustre.

The Italians used lead glaze on their pottery from a very early period. According to Passeri, mezza-majolica covered with marza-cotto was made at Pesaro as early as the beginning of the fourteenth century. Sgraffiato ware was made in a similar manner, and derived its name from the incised ornaments which were cut into the white engobe or slip (with which the ware was covered), so as to show the original color below the slip. In the example here given (Fig. 202) the incised decoration is combined with figures and flowers in relief. But the brilliant importations from Spain made a deep impression upon the public taste. The wares of Majorca were those best and most generally known, and its name, as changed to majolica, had been given to the entire class of lustred wares, although the art of lustring was already known in Italy. It is well to discriminate be-

Fig. 202.—Sgraffiato of the 15th Century.

tween the name and the article. It is quite possible that the name of the best known type should come to be applied to the entire class. Jacquemart finds the early wares of Pesaro very suggestive of Persian influence. He concludes, also, that the art of applying the metallic

lustre may have been communicated by Persian potters, or by others who had learned it from them, to the eastern potteries of Italy. We may conclude that, as the Majorca ware surpassed that of the early Italian potteries, the potters of Italy endeavored to derive what benefit they could from calling their own productions by the same name. Metallic lustres were used before stanniferous enamel was adopted. The invention of the latter in Italy has been generally ascribed to Luca della Robbia, but there is every reason for believing that this is incorrect. It is impossible to suppose that the Saracen and Moorish potters in Italy were unacquainted with it. It is much more likely that, being satisfied with the results of the processes to which they were accustomed, and the beauty of lead glaze, they did not care to use it.

Fig. 203.—Luca della Robbia.

To tell what Robbia *did* accomplish we must glance at his personal history. Luca della Robbia (Fig. 203) was born at Florence in the year 1399 or 1400. At first he turned his attention to the business of a goldsmith, but afterward aspired to sculpture. About 1438 his marble bas-relief of "The Singing Boys" was placed in the Duomo of Florence, and was so great a success that orders quickly multiplied. He had also done some work in bronze, but neither chiselling nor casting was sufficiently speedy. Statues must be copied from a clay model. The model was his own; the copy was, in the general case, the work of an assistant; and probably, even if he chiselled the marble himself, he could not reproduce the effects so easily reached in the plastic clay.

Luca was an enterprising artist, and it occurred to him that if he could only dispense with the chiselling and casting, his art and profit would both improve. But how could he make the clay as hard as bronze and as white as marble? Remember that Luca was a sculptor, not a potter. Whatever he did afterward, there can be no doubt that his attention was first turned to statuary. He probably decided upon

applying to the men who were accustomed to working in clay, to coloring it and glazing it, to help him in his difficulty. He inquired, and learned that by dipping his statuary in tin enamel and firing it, his object would be accomplished. These considerations give his supposed discovery a new aspect. If we consider that for centuries stanniferous enamel had been in use by Eastern potters, and that the Saracens were perfectly familiar with it, the secret is divested of all mystery. Luca probably acquired his knowledge in one or other of the Italian potteries. What, then, are we to credit to him? He must be admitted to have improved the enamel after a series of experiments, and to have succeeded in bringing it to the degree of fineness and opacity demanded by his purpose (Fig. 204). His first work was a bas-relief of the Resurrection, made about the year 1440, and still standing in the Cathedral of Florence. This piece is of blue and white, the latter for the figures, the former for the ground. He afterward introduced green and yellow, but these colors are very sparingly used. His

Fig. 204.—Holy Family. Medallion by Luca della Robbia. (Hôtel Cluny, Paris.)

Fig. 205.—Luca della Robbia. Infant Saviour and Virgin. (Boston Museum of Fine Arts.)

best works are in and around Florence. Of a Madonna in the circle above a chapel door, Ruskin, in his "Mornings in Florence," says: "Never pass near the market without looking at it; and glance from the vegetables underneath to Luca's leaves and lilies, that you may see how honestly he was trying to make his clay like the garden stuff." The same colors are introduced in a bas-relief in the Castellani collection, in which the Madonna kneels before the Infant Saviour, and angels look down from above. The figures are white, the ground blue, and green is introduced in the grass. Of the same class is the preceding example (Fig. 205) from Boston.

Fig. 206.—Medallion by Luca della Robbia. (South Kensington Museum.)

While producing these works in enamelled earthen-ware, Robbia also painted on the flat. Of this work there are twelve circular medallions in the South Kensington Museum, and several specimens in Florence—a tondo, some tiles, and a lunette. The medallions are enamelled, and the paintings are allegorical representations of the months (Fig. 206). Vasari says in regard to the tiles: "For the bishop of Fiesole, in the church of San Brancazio, he also made a marble tomb, on which are the recumbent effigy of the bishop and three other half-length figures besides; and on the pilasters of that work he painted, on the flat, certain festoons

Fig. 207.—Andrea della Robbia. Holy Family. (Boston Mus. of Fine Arts.)

and clusters of fruit and foliage so skilfully and naturally, that were they even painted in oil on panel, they could not be more beautifully or forcibly rendered."

Fig. 208. — Modern Imitation Robbia Ware. (Boston Museum of Fine Arts.)

Luca died in 1481, leaving the full knowledge of the process he had perfected to his nephew Andrea, who, however, was less successful than his uncle. His art is less pure (Fig. 207). He becomes elaborate where Luca was simple, especially in his heavy borders of fruit. Andrea was born in 1457, and died in 1528, and left the transmissible part of his art to his four sons, Giovanni, Luca, Ambrosio, and Girolamo. Of these, Girolamo became a monk, and one specimen of his work is said to be at Siena. Giovanni's works are signed, and cannot, therefore, lead to any confusion. Luca, junior, settled in Rome, and Girolamo went to France, where he executed several works. Luca, the elder, had also two assistants, Agostino and Ottaviano, the former of whom displayed great talent, and worked in Perugia. The special art was carried to Spain by Nicoloso Francesco, of Pisa, who made some bas-reliefs for a church in Seville. Of the other successors of Luca we need only refer to Maestro Giorgio Andreoli, of Gubbio, who is said to have produced some pieces after the Della Robbia type (Fig. 209). The style finally passed away in the earlier part of the sixteenth century. The demand for it appears to have failed about that time. Stanniferous enamel continued to be used here and there after Luca's death, and after the lapse of some years came gradually into general use. The oldest piece not of his style is dated 1475. For the sake of lucidity it may also be here mentioned, that the

Fig. 209.—S. Sebastian, by Giorgio. (South Kensington Museum.)

metallic lustre, for which the first pressure of public demand was felt toward the close of the fourteenth century, passed into oblivion in less than a hundred years, until revived in more modern times.

Fig. 210.—Chaffaglolo Pitcher. (South Kensington Museum.)

Besides that of perfecting a special process, to Luca della Robbia must be assigned the credit of paving the way to the revival which culminated in the products of Gubbio. The distinction between mezza-majolica and majolica must not be forgotten, viz., that the former name was originally applied to wares covered with a white slip, then painted, lead-glazed, and lustred, and the latter to tin-enamelled ware similarly lustred. The latter was thus the highest representative of the combination of two processes, both of Oriental origin. The application of metallic lustre was Persian. Stanniferous enamel was successively Egyptian, Babylonian, and Saracenic—the Saracens undoubtedly acquiring a knowledge of it in Persia, where the beautiful silicious glaze kept it in subordination. The Moors in Spain brought it more freely into use in decoration, and with Luca della Robbia, who perfected the process still farther, raised it from the desuetude into which it had fallen in Italy, where, however, it was already known to Saracenic settlers and their pupils.

Fig. 211.—Siena Vase. (South Kensington Museum.)

With this recapitulation of the beginnings of real Italian majolica, we may now continue our history. The impetus Italian ceramic art received from foreign contact, and from the knowledge acquired by trade, was kept up by the wisdom and devotion to the cause of art manifested by several of the

ducal houses. From Pesaro, under the house of Sforza, from Urbino, under that of Montefeltro, and from Florence and Chaffagiolo, under the Medicis, and from other centres, the art spread over all Italy. It is, therefore, by inquiries at these places that our investigations must be continued. Leaving out of view the questions as to the priority of Chaffagiolo to Faenza and Pesaro's precedence in metallic lustring, we may begin with Tuscany.

The leading Tuscan towns were Chaffagiolo, Florence, Siena, and Pisa. The first of these produced the earliest Tuscan majolica. Its leading features are a thick dark blue, made from cobalt; a bright orange and yellow; a fine clear green, red, brown, and purple. Before the artists of Chaffagiolo had awakened to the spirit of the Renaissance, they issued some works enamelled on one side, with central designs of a Gothic character, and borders of orange, white, and blue. In the fifteenth century a marked improvement was made, but it was not until the beginning of the sixteenth century that the best Chaffagiolo ware was made. Their colors then become more brilliant, and are more daringly handled. Some of these pieces are dated 1507 and 1509. Metallic lustres were used about the same period. Later, the brilliancy of the enamels is toned down, and the execution of the designs is more careful and refined. Chaffagiolo continued to make majolica to the end of the sixteenth century. The pieces frequently show heraldic designs (Fig. 210) and mottoes, the letters S. P. Q. F. (the senate and people of Florence), and the letters P. S. sometimes with I. and sometimes without.

The works made at Siena (Fig. 211) are in many cases undistinguishable from those of Chaffagiolo. An artist named Benedetto produced at Siena some very fine pieces.

The majolica of Florence, if such were ever made, is now unknown. Lazari states that an artist was brought by the Grand Duke Francesco Maria to decorate Florentine vases; but assuming the truth of the statement, his works are now either destroyed or lost among those ascribed to other places. We have already learned something of Pisa as fitting out a Balearic crusade and exchanging pottery with Spain. Probably the wares it exported came from other parts of Tuscany, although it had a majolica manufactory of its own. The Pisan decoration closely resembles that of Urbino.

In the Duchy of Urbino, Pesaro, Castel-Durante, Urbino, and Gubbio are the leading centres, and absorb a large share of the interest surrounding the pottery of Italy. When the Sforza family acquired the lordship of Pesaro, they instituted pottery works there, and in 1486

Fig. 212.—The Sforza Dish. Pesaro.

and 1508 passed edicts against the importation of earthen-ware into Pesaro. The first of these protective measures was granted by Giovanni Sforza and Camilla, his father's widow, and was commemorated by a dish called the Sforza dish, a very wonderful specimen of majolica (Fig. 212). The centre is occupied by portraits of the granters of the edict, shaded with blue on an indigo ground, and having gold and ruby lustred hair, dresses, and head-dresses. A scroll representing the edict forms a white back-ground to the faces, and is finished with ruby lustre. The borders are blue, with ruby and gold lustre. Under the house of Sforza the manufacture of mezza-majolica improved, and in 1500 fine, or tin-enamelled, majolica was introduced. Up to 1530 it steadily improved, and in that year the wife of the

reigning Duke of Urbino, who had succeeded the Sforza lords of Pesaro, erected a palace near Pesaro. From 1540 to 1568, under Duke Guidobaldo II., the art continued to rise, until it reached its highest point of perfection. The duke first employed Battisto Franco, an eminent Venetian artist, and Raffaelle del Borgo. Girolamo Lanfranco and Giacomo Lanfranco were also employed as artists at Pesaro. After 1560 the art began to decline.

The earliest Pesarese works very closely resemble the Persian, and are the best indications to be found of the presence of an art brought directly from Iran to Italy. These are lustred and painted in green and blue. At Pesaro we first meet with pieces showing the portraits and love mottoes by which the lovers of the day celebrated the beauty of their mistresses and gave lasting tokens of their passion. If we seek peculiar features in this majolica, we shall find them in the strong execution and finely blended tints of the early pieces, and in the yellow of the *madreperla* lustre combined with blue. As the art rose under the second Guidobaldo, historical scenes after the great masters present themselves, taken from both profane and sacred history — the brave Horatius defending the bridge at Rome against the army of Lars Porsenna, Samson, Brennus, Mutius Scævola, Judith, and other characters. In 1567 the Giacomo Lanfranco already mentioned applied real gold to majolica, and several of his pieces thus decorated are still in existence.

Fig. 213.—Pesaro Vase. (John Taylor Johnston Coll., N. Y. Metrop. Museum.)

Castel-Durante appears to have produced faience as early as 1361, but none of its pottery can be recognized until we come down to 1508, after which the specimens mul-

tiply. With the year 1580 the art passed its meridian, and declined steadily for nearly two hundred years. The characteristic decoration consists of scrolls with fantastic chimerical terminations. The colors are at first a dull green upon blue, and about 1550 lustrous rich yellows appear, and led to the decline thirty years later.

Fig. 214.—Castel-Durante Portrait Plaque. (South Kensington Museum.)

The city of Urbino was the great centre at once of majolica painting and of the ducal patronage, which gave the entire duchy its pre-eminence. From 1477, when Garducci was working in a comparatively humble way, down to 1530, the history of Urbino hardly demands notice. Its highest glory came with Francesco Xanto (Fig. 216), whose broad and generally true drawing and masterly composition mark him as one of the great artists of the Renaissance. His subjects are taken from the Latin classical and the later Italian poets, and from Raffaelle. Living at the time when the demand for metallic lustre was at its height, he applies it with a boldness and effectiveness in harmony with his brilliant coloring. All his works are signed. From him we turn to the equally illustrious Fontana family—Guido, Camillo, and Orazio, the latter of whom

Fig. 215.—Castel-Durante Dish. (Castellani Coll.)

is specially deserving of study. He attained to a higher mechanical excellence than any of his predecessors, his best works dating from after 1540, when Xanto's career was closing; and his paintings are in consequence characterized by a softness of color and a fineness of glaze which leave him without a peer. Few pieces by the Fontana family are signed. Their most famous works are the vases for the

Fig. 216.—Urbino Plate, by Xanto. Scene, the Storming of Goleta. (Marryat Coll.)

Spezieria, ordered by the Duke Guidobaldo II., and painted from designs by Raffaelle Battista Franco, Michael Angelo, Giulio Romano, and others. Nicola da Urbino and Francesco Durantino are among the other artists who contributed to the fame of Urbino.

The lustres of Gubbio (Fig. 219) are inseparably associated with the one great name of Giorgio Andreoli, or, as he is usually called, Maestro Giorgio. He was a native of Pavia, and was originally a

sculptor; and after he went to Gubbio, in 1498, executed some works in the Della Robbia style (Fig. 209). A piece dated 1489, and signed "Don Giorgio," is ascribed to him while he was still at Pavia, but the first piece characteristic of the master, signed and lustred, is dated 1519, and the last 1541. We have said that Xanto of Urbino lustred his own pieces, but the matter is not free from doubt. Maestro Giorgio certainly was master of the art of lustring, and the brilliancy of his ruby reds, copper, and mother-of-pearl is unrivalled. But the statement of many writers that artists at other places sent their works to Gubbio to be lustred, and allowed Giorgio to affix his name to them, is too repulsive to be accepted without protest or reservation. One can hardly imagine a more unworthy course than that ascribed to Giorgio, of laying aside his proper artistic functions and becoming merely a decorator with lustres, "indifferent," as Marryat says, "by whose hands they were executed or from what fabric they proceeded." It is in this capacity of decorator that the otherwise finished paintings of Xanto and others are said to have been sent to him to be enriched with lustre. The earlier Gubbio wares generally have a pale-blue ground, with grotesques and scrolls terminating in animals' heads, and mingled occasionally with cherubs' heads. The grounds afterward became more brilliant, and the designs include mottoes and busts in celebration either of the great men of the time or of its fair ladies. It is to be noted that Giorgio

Fig. 217.—Urbino Vase. Figure of Justice with Sword. (Castellani Coll.)

lived before the accession of Guidobaldo II., and consequently did not partake of the benefits enjoyed by the Fontana family at Urbino.

From the Duchy of Urbino we may turn to Faenza. It has already been referred to as supplying an etymology for the word faience. Ganzoni, writing in 1485, speaks of the whiteness and polish of the Faenza majolica, and Lazari praises its soft tints and good drawing, which manifested themselves after the first quarter of the sixteenth century. The earlier fabrics bear strong evidences of Oriental influences, and, as seen in the Castellani collection, would carry us back to a very early stage of the art. The glaze is either lead or litharge, and some of the designs consist of geometrical combinations in manganese and copper. Other primitive pieces are of a very pale blue or white, changing at times to a blue border surrounding heads with beards terminating in acanthus leaves and scrolls attached. A slight examination of these pieces shows that the strength of the artists of this period lay in the accessories, and that they were weak and uncertain in their attempts at figure-drawing. The pieces ascribed to Casa Pirota, of which Signor Castellani has some notable examples, are those in which we discover the point of Lazari's encomiums. These date from 1525 downward, and show the excel-

Fig. 218.—Urbino Pilgrim's Bottle. (South Kensington Museum.)

Fig. 219.—Lustred Gubbio Vase, of about A.D. 1500. (South Kensington Museum.)

lence of drawing and brightness of decoration which gave the Faentine majolica its celebrity. The borders frequently consist of grotesques in shaded white on pale or dark blue or gray grounds. Dishes with chiaroscuro arabesques on grounds of blue, surrounding figures, busts, or heraldic designs, represent a prevailing Faentine style. A plate belonging to Signor Castellani has a blue ground in the centre, on which a coat-of-arms is laid in yellow, and the broad border of pale gray finishes with a rim of green and yellow. An exceptional piece is described as black with white reserved arabesques. Forli, Rimini, and Ravenna may be dismissed briefly. Forli produced pottery at least as early as 1396; but it was not until the sixteenth century that it made any majolica which we can recognize, and even then it might easily be confounded with the productions of Chaffagiolo and Faenza. The Rimini majolica is chiefly remarkable for its wonderful glaze.

Fig. 220.—Plateau by Giorgio. (South Kensington Museum.)

Venice had majolica factories at least as early as 1520, and probably half a century before that date. The earlier wares are illustrated by certain pieces of faience pavement. Of the sixteenth century the earliest specimens are dated 1540 and 1543, and of this period the designs are chiefly in blue and white, sometimes soft and undecided. The ware is thin and hard, and the rims of plates are frequently decorated with fruit and flowers in relief. Scrolls on a deep blue ground, and oak leaves on pale blue, are also met with.

With Ferrara, Deruta, and Naples we may conclude our enumeration. Ferrara was an offshoot of Faenza, whence we find Fra Melchiorre coming in 1495, Biagio in 1501, Antonio in 1522, and Catto in 1528. The artist Camillo who painted vases, the Dossi brothers

who designed, "El Frate," Grosso, and Zaffarino are among those who gave Ferrara its reputation. It is probably to the Dossis that the grotesques on a white ground are to be attributed. Deruta takes us back to Robbia, whose pupil, Agostino di Antonio di Duccio, went to Perugia in 1461, and thence certainly influenced the Deruta school. With such teaching Deruta produced, early in the sixteenth century, majolica of a very high order of merit, with blue grounds and yellow lustred cherubs' heads in relief, and arabesques. Within such borders are white enamelled inner circles, with scrolls mingled with birds and

Fig. 221.—Faenza Fruit Dish.

chimeras, surrounding a raised centre of deep blue bearing a bust or head. Several pieces subsequent to 1544 are signed "El Frate," and are, as a whole, weak and unpleasing, although some others are strong and beautiful. As a rule, the artists of Deruta appear to have been

the direct opposites of those of early Faenza, *i. e.*, they expend their resources upon their principal figures, and make the details entirely secondary. The earliest Deruta vases are conical, and decorated in lustre and white enamel with blue. Naples and Castelli are both surrounded with more or less mystery, although evidence is not wanting that the

Fig. 222.—Deruta Dish. (South Kensington Museum.)

latter at least produced excellent majolica. With the end of the sixteenth century appear some large vases of Naples, painted in dark colors with religious subjects.

The shapes which engaged so much of our attention in Greece, are in Italy too manifold and varied for classification. We are in presence of an entirely new order of things, when we find artists expending their best efforts upon decoration with enamels, lustres, arabesques, grotesques, and wonderful scrolls turning in their sweeping folds round all manner of impossible monsters, of a plain, broad-bordered dish, with no pretension to form. When the Italian artists concede something to shape, they frequently become wilful, embellishing a vase reminding us of Greece with serpent handles, or running off into

elaborate inkstands or quaint table wares. In the Italy of the Renaissance we are in the presence of the triumph of decoration, and it is upon decoration that we, in common with all inquirers, must concentrate attention, thankful if at times we detect a harmony between the gracefulness of a vase and the beauty of its brilliant colors.

Possibly it may be reserved for the United Italy of the nineteenth century to turn back to the earlier pages in her ceramic history, and, having filled herself with the spirit of the potters of Magna Græcia and Apulia, to pass down to the brilliancy of the sixteenth century, and, with both in full view, to execute something worthy of the later prime of her unity. Endless repetitions of the famous fabrics of the Renaissance have led her into spiritless imitation and boundless fraud. Some of the pieces displayed at the Centennial Exhibition were by no means destitute of merit. Faenza can still produce good drawing and effective coloring, and Della Robbia ware is still manufactured with tin-enamelled figures, which look considerably better than whitewashed terra-cotta. But let us imagine the energy and skill devoted to imitation with intent to deceive, and the painstaking labor of honest men who make no attempt to rise above the rank of copyists, to be together thrown into an endeavor to reach a new originality. Might not Italy be raised from the rank of a country resting upon a brilliant past into that of one working in the present to reach an equally brilliant future?

PORCELAIN.

Florence and Earliest Artificial Porcelain.—Theory of Japanese Teaching.—La Doccia.—Venice, and the Question of its First Making European Porcelain.—Le Nove.—Capo di Monte.

To Italy and to the family of the Medici, as we have seen, belongs the honor of making the first artificial European porcelain of which any specimens have come down to our time. The result of recent researches has been to throw much light upon the interesting discovery made at Florence. Dr. Foresi, of that city, was the first whose attention was drawn to the matter. He collected several pieces of porcelain, evidently of European manufacture: and his curiosity having been aroused as to their origin, he found that the Grand Duke

Francis I. had a private factory in the Boboli gardens, that there experiments had been made with a view to discovering the composition of porcelain, and that success had been attained. The marks on the pieces are the letter F. and a dome, the arms of the Medici, and on one, the arms, the letters F. M. M. E. D. II.—the initials of Franciscus Medici Magnus Etruriæ Dux Secundus—the letter F. and the dome.

Fig. 223.—Medicean Porcelain. (Castellani Coll.)

The latter of these were clearly the initial letter of Florence or of Francis, and the dome of the city's magnificent cathedral. A fine specimen of the Florentine porcelain was brought to America in the Castellani collection (Fig. 223). It is a fluted dish, with the figure of St. Mark and the lion painted in blue on the bottom (Fig. 224). Under the lion's paw is a volume bearing the letters G. and P., supposed to be the artist's initials, and on the reverse are the letter F. and the dome. In the same collection is a plate, also decorated in the Japanese style, light blue and white, and having the dome and letter on the under side. There are not thirty pieces of this ware known. In connection with the fact that the decoration, as we pointed out when speaking of this ware under Japan, is undoubtedly Japanese, an interesting question has been raised by Mr. B. Phillips. He expresses the belief that the presence of Japanese—composing the embassy to the Pope—in Italy may have had a direct influence, not only on the ornamentation but on the manufacture of the Medicean porcelain. He then says:

Fig. 224.—Design at Bottom of Bowl, Fig. 223.

"That these Japanese nobles visited the Grand Duke in Florence cannot be doubted. Now, as to the Medicean porcelain, we have been careful not to use the word 'discovery' in connection with its early manufacture in Florence. We are strongly of the opinion that the method of selecting and preparing the material from which porcelain had to be made was derived directly from the Japanese. If the decoration, as we believe has been undoubtedly proved, was taken from the Japanese, might not the method of making porcelain have been derived from the same source?" That Italy may have full credit for the Grand Duke's success, it may be pointed out that there are two objections to the above theory.

It is nowhere stated that the Japanese were acquainted with any other than natural kaolinic porcelain, and it is exceedingly improbable that the members of an embassy had any knowledge of the combination of materials in an artificial paste. The Medicean was not a pure kaolinic porcelain, but "a composite paste having for basis quartz and a vitreous frit, with a small quantity of the kaolin of Vicenza." In the second place, the embassy did not leave Japan until 1583, and only reached Italy in 1585. "In 1581," says Jacquemart, "the experiments of the Grand Duke had produced their fruits, and he already sent presents of his translucent pottery to the other sovereigns of Europe." The porcelain was, therefore, made before the Japanese arrived in Italy.

Were anything further needed to preserve for Italy the exclusive credit of one of the greatest contributions to ceramic art, it may be found in the styles of decoration of the Medicean porcelain. These are divisible into two classes: the Oriental and the Italian. The latter resembles that of faience, and consists chiefly of grotesques. Such are the pieces upon which appear the arms of the Medicean family, for whose use they were reserved. The specimens with Oriental decoration were gifts made to spread abroad the renown of the Grand Duke's laboratory. Such a purpose could certainly not have been fulfilled with inferior works, and this class, to which the Castellani porcelain belongs, may be taken as representing the best Medicean paste. In this view the fabric was at its highest before the Japanese left their own country, as we have seen that pieces of this character were being sent over Europe in 1581.

The probability is that the Grand Duke, or Bernardo Buontalenti, who really made the discovery, arrived at it by independent investigations prompted by Oriental porcelain, and that the latter and the finer specimens of majolica suggested the decoration.

About one hundred and fifty years later, or in 1735, the Marquis Carlo Ginori established a manufactory at La Doccia, near Florence. The enterprise of the founder was so great, manifesting itself in the introduction of the chemist Wandelein as director, and the importation of material from China, that in a few years the Doccia porcelain had become famous. The earlier pieces bear a close resemblance to the Chinese. The artists of Doccia excelled in modelling, and many of their groups are beautifully executed. It is unfortunate that from an early period of the existence of the workshop its artists should have engaged in imitation. After following Chinese models they turned to Sèvres, and then to Capo di Monte. More lately, Doccia has won an unenviable notoriety by its spurious imitation of old majolica and the wares of Luca della Robbia. Early in the last century Doccia became possessed of some of the moulds of Capo di Monte, and as the Doccia mark does not appear upon the pieces made from them, a wide opening was offered for fraud. It is worth noting, however, that it is by its copies and imitations that the Doccia manufactory reached its greatest financial success. The success of the counterfeit has destroyed the genuine, and the artistic is overshadowed by the commercial.

In Venetia, porcelain was made at Venice and Le Nove. The history of the manufacture in Venice is somewhat obscure. Early in the sixteenth century—and, therefore, before the Medicean ware was produced—experiments, the success of which cannot now be measured, were made by a Venetian artist. He seems, after making a few pieces, to have relinquished the enterprise for lack of support and patronage. His story is thus told: "There was an old potter in Venice about 1504–1519, whose name is unknown, of whom, in fact, we know nothing except from a few notes discovered by the Marquis Campori among the relics of the Duke Alphonso I. of Ferrara, but whose name ought to be blazoned in gold as the first European who made porcelain. In 1504 the Duke was in Venice, and his book of expenses shows an item of two liri and a fraction, paid for a piece of porcelain.

Fifteen years afterward his ambassador in Venice wrote him a letter, sending with it a plate and bowl of porcelain, from the 'master,' from whom the Duke had ordered them. And the ambassador goes on to say that the master declined to take more, as his experiments cost him too much time and money; and, further, he declines to accept an invitation of the Duke to remove to Ferrara and make porcelain there, pleading that he is too old, and does not want to leave Venice. Enthusiastic collectors imagine that a few specimens to which they can assign no other origin are works of the old Venetian, but there is no satisfactory evidence that any of his work remains." In the absence of any relics of this ancient Venetian to substantiate his claim to the invention of a true porcelain, the honor will probably continue to be ascribed to Florence. However this may be, the existence of Venetian specimens with decoration suggestive of seventeenth century styles, would indicate that the industry was at least kept alive, and that there were several predecessors to the manufactory founded by Francesco Vezzi early in the eighteenth century. Some very beautiful works are attributed to the Casa Vezzi. In or about 1765 another manufactory was established by Geminiano Cozzi, and from it were turned out table-sets, groups, statuettes, and vases. The establishment at Le Nove, founded in 1752 by Pasquale Antonibon, produced majolica, terraglia—a mixed composition of pottery and porcelain—and artificial porcelain. Of the latter (Fig. 225) some magnificent examples have been preserved.

Fig. 225.—Nove Porcelain Vase.

The most famous Italian porcelain is that of Capo di Monte. This manufactory was founded in 1736 by Charles III., whom we have already seen introducing the art into Madrid, after he left Naples to mount the throne of Spain. The founder does not appear to have

been indebted to any extent whatever to the discoveries made at Meissen, but to have set on foot a perfectly independent and national industry. The king frequently worked in the factory, and under his guidance and the favor of his consort, Queen Amelia of Saxony, its products rapidly improved after the first essays, which closely followed the Japanese. The Capo di Monte forms assume a distinctive character. Her artists turned to the sea, as became citizens of the Queen of the Sea, and there found inspiration. They took the shells of the Mediterranean for their models, and by combining them with coral and sea-plants, and coloring all after nature, produced some of their most beautiful works. A very handsome ewer is thus composed, the body representing an ingenious combination of shells set in a foot of coral, a branch of which climbs up the side, and, arching to the lip, forms the handle. A basin is similarly designed, and is dotted with smaller shells. Or again, a salt-cellar is modelled after a boat steered by a youth. These examples will suffice to show that not the least merit of the artists of Capo di Monte is their originality. The table services present us with some of the finest porcelain made in Europe. The paste is fine and transparent, and many of the pieces are as thin and light as the egg-shell of China.

When Charles III. set out for Spain, he took a number of the artists with him, and left to his successor in Naples the work of maintaining the industry. In this Ferdinand was not successful, and Capo di Monte rapidly sank, and disappeared altogether in 1821.

The porcelain made at all the places named was artificial. The only Italian manufactory of natural porcelain was that of Vineuf, near Turin, which began to work toward the end of last century. The body contains magnesia. The workshop was founded by Dr. Gioanetti.

Fig. 226.—Old Sèvres Biscuit. Judgment of Paris. (August Belmont Coll.)

CHAPTER V.

FRANCE.

Prospect on approaching France.—Present and Past.—The Ancient Celts.—Under the Romans.—Middle Ages.—Poitou, Beauvais, and Hesdin.—Italian Influence.—A National Art.—Bernard Palissy, Barbizet, Pull, and Avisseau.—Henri Deux Ware.—Rouen.—Nevers.—Moustiers.—Marseilles.—Strasburg.—Limoges.—Haviland's New Process.—Examples.—Bourg-la-Reine.—Laurin.—Deck.—Colinot.—Creil.—Montereau.—Longwy.—Parville.—Gien.—Sarréguemines.—Niederviller.—Luneville.—Nancy.—St. Clement.—St. Amand.—Paris.—Sceaux.

Turning as we leave Italy we seem to look back across a wide, unbroken plain, from the midst of which rises a mountain range, its sum-

mits glowing with the rays of the setting sun behind us. It is thus we revert across comparative barrenness to the Renaissance, beyond which, and hidden, lie the earlier glories of Etruria and Græco-Italy. As we turn to France the sun is in front of us, striking full upon a height still cloud-capt and unrevealed, and bathing the intervening undulating landscape in the fulness of its undimmed splendor. With France the present sheds lustre, life, and light upon a long past beginning with pre-Roman Gallia, and extending through Roman domination, the darkness of the Middle Ages, and the Renaissance to the present time.

The early pottery of Gallia has been variously viewed, but there seems no reason for withholding from the ancient Celtic potters the credit of having adopted a high and pure standard of art before the Roman power was established. It has even been questioned, in the light of a full knowledge of the subject, if the Romans did not, by the introduction of new models, retard the growth of native skill and destroy an art superior to their own. Judging from the examples still remaining, it is at least unquestionable that the Celts had, at a very early date, arrived at ideas of simplicity and elegance of form far in advance of those entertained by contemporary nations. These works, moreover, give no indication of foreign influence, and probably represent the last stage of native art, before it was disturbed by the entrance of the invader. The ornamentation is chaste almost to severity, and although in some instances it shows a community of style with the early German pottery, it is generally independent and distinctive. We do not assign an age to these pieces, but it appears probable that they were preceded by a ruder pottery also referable to the ancient Celts. The earlier remains, supposed to belong to the pre-Roman era, have been found in the North, and are of a very primitive character, evidently made entirely by hand, without the assistance of either mould or wheel. The paste is dark-colored and coarse. There is also a class equally rude, in so far as the composition is concerned, but giving in the shapes a suggestion of Roman influence. Red Roman ware has been found in every part of Gaul, and a furnace was discovered in Auvergne. At Bordeaux red, black, white, and yellow Roman pottery has been exhumed, and several localities are indicated at which potteries existed.

As we approach the Middle Ages, and begin to detect evidences in France of a knowledge of processes with which we are already familiar, and to question ourselves as to their special origin, it may be well to keep the following facts in view: firstly, that Marseilles was founded by a Phœnician colony; secondly, that pottery of the South of France, after the Arabs had spread over the States of Barbary, so closely resembled the Arabian as to suggest at once communication with the North of Africa; thirdly, that France was open to the same influences of trade, intercourse, and immigration which had so powerful an effect upon Italy. Let us allude to one point, the probable transmission of lead-glaze from Greece to Rome, and thus to the Gauls, for an illustration of the untraceable route by which knowledge was spread, and for an explanation of the phenomenon so often witnessed of a certain product revealing itself in the most incomprehensible manner at a point far removed from the accepted centre of works of its class.

In the twelfth century Oriental ideas in France begin to supersede those of Gothic inspiration, and Christianity and chivalry together operate a decided change in ceramic ornamentation. Processes gradually improved. At Poitou, in the thirteenth century, green-glazed conical urns were made, and Beauvais had already reached celebrity. More interesting is the fact that, at Hesdin, Jehan de Voleur was, toward the close of the fourteenth century, acquainted with stanniferous enamel. In France, therefore, as in Italy, this secret was known long prior to the supposed discovery by Luca della Robbia. It is, however, to Italy that France is indebted for the access of spirit infused into its ceramic art in the sixteenth century. Italy supplied models to the French potters, who had been busying themselves with ornamentation of Gothic origin and Christian devices and legends. And, further, Italian artists flocked to France between the close of the fifteenth and the latter part of the sixteenth century, and settled at Lyons, Amboise, Nantes, and elsewhere. After a time the Italian taste they represented and their technical skill were turned into a channel more thoroughly French, and to the building up of an art purely national.

Among those who assisted in this great work no name is more eminent than that of Bernard Palissy (Fig. 227). We have already characterized his life as the great romance in the history of ceramics, and

certainly it reads more like a romance than sober fact. Let us look at it a little in detail. His father was a humble artisan, and the honor of his birthplace is ascribed to La Chapelle Biron, between the years 1506 and 1510. His education was of the most limited kind, including merely reading and writing; and at an early age he began professional life as a worker in glass, a combination of the glazier and painter. His artistic instincts were thus kindled; and besides acquainting himself with drawing, painting, modelling, and geometry, he studied the Italian masters, copied their works, and devoted part of his time to literature. Thereafter, to add to his stock of knowledge and widen his experience, he began to travel, and visited Germany, Flanders, and the several provinces of his native country. As he travelled, he worked as surveyor and glass-painter, and studied chemistry and natural history. It is with some astonishment that we find this man, unknown to the world at large except as a potter, investigating the subjects upon which the noble science of geology was afterward built, and theorizing upon the elasticity and power of steam.

Fig. 227.—Bernard Palissy. (From a Painting in the Hôtel Cluny, Paris.)

He finished his travels in 1539, settled at Saintes, married, and devoted himself to his original profession and to land-measuring. A few years later he saw the beautiful enamelled earthen cup—whether Oriental, German, or white Ferrarese need not concern us — which turned the entire course of his life. He wished to imitate the enamel

without knowing anything of its composition, and embarked upon the long series of experiments which led him, through numberless trials, to eminence and fame. He presents at this period one of the most curious figures possibly in all history, that of a man apparently bent upon shutting out all benefit that might have been derived from the experience of others, literally "groping in the dark," as he says of himself, and determined to make up for lack of technical knowledge by assiduous experiment. He ground, built furnaces and fired them, tried the potter's oven of Chapelle-des-pots—all to no purpose. Having accepted a surveying mission he returned with treasury replenished and ardor unabated.

Surely, no man ever knocked with such pertinacity at the door of knowledge. He met his first success by trying a glass-maker's furnace. One of the pieces came out "white and polished." This was food to live upon, and he began to build a furnace of his own, doing all the work himself—three masons in one. At length it was finished, and the first attempt ended in failure. He tried again, becoming poorer and poorer, so that he could not buy wood for his furnace. In his strait, he took the tree-props from his garden, his furniture, and house-flooring for fuel. "My shirt had not been dry for more than a month; and also, to console me, they laughed at me, and even those who ought to have helped me went crying about the town that I was burning my floor, and by these means made me lose my credit; and they thought me mad." He was evidently in a bad way when he dropped into wearing a wet shirt for a month, and thinking that any one ought to have helped him. After a short rest, he turned his attention to the preparation of a new furnace.

To carry out this new plan, he was compelled to mortgage his credit by employing a potter to assist him. His assistant he kept in food by the friendly offices of a tavern-keeper, who seems not to have shared in the madness theory. After six months he felt himself obliged to pay off his help, and did so—in clothes, part of his own scanty wardrobe. Still he was not to be beaten. He finished his furnace single-handed, put in his pieces, and started the fire; but still the gods were inexorable. The pebbles in the mortar used in building the furnace cracked under the heat and flew in splinters, sticking in the glaze of his pieces, and spoiling them. Remorselessly, he broke them

all, declining even to give his importunate creditors a single specimen in part payment of his debts. One can imagine the storm such conduct raised, and to make matters worse, "I met with nothing in my house but reproaches, and received maledictions instead of consolation." The ashes spoiled his next batch, and when he resorted to seggars the unequally distributed heat marred the enamels. He was now, however, too near victory to be altogether discouraged, and finally, after fifteen or sixteen years of unheard-of struggle and misery, this indomitable genius produced the long-sought enamel, and the secret of his well-known rustic pottery was discovered.

Fame and patronage came with success, but Palissy's troubles were by no means ended. Having embraced Protestantism, he fell under the edict of 1559, saw his workshop destroyed, and was only saved from death by the intervention of the king. Under the protection of Queen Catherine de Medici, he first went to Rochelle, but was afterward summoned to Paris, and there, in a workshop erected in the garden of the Tuileries, produced some of his best works. Saved by court influence from the massacre of St. Bartholomew, he afterward, in 1588, fell into the hands of the Leaguers, and in the following year, at the age of eighty, died in the Bastille.

Fig. 228.—Palissy Dish. (Rothschild Coll.)

His first success was the production of the white enamel, which appears to have engrossed his entire attention. His second attainment was a jasper glaze, the examples of which show a mixture of brown, white, and blue, and which he deemed only worthy of using as a means of temporary subsistence. His third and most famous achievement was the *Rustiques figulines* (Fig. 228), with which

his name is most intimately associated. These are known by imitations almost everywhere, and consist of variously shaped dishes and vases ornamented with shells, frogs, lizards, snakes, fish of several varieties, and leaves (Fig. 229). He was succeeded by certain members of his family, upon whose death his specialty was lost. At the Centennial Exhibition several imitations were shown in the French, Swedish, and Portuguese departments. Of these the best were those of M. Barbizet (Fig. 230), of Paris, the son of an artist who is said to have rediscovered Palissy's method, some fifty years ago, and who introduced his father's discovery into commerce in 1850. Pull, of Paris, and Avisseau, of Tours, are also modern imitators who have been very successful in approaching their model. Pull began to produce his imitations in 1856, and has even deceived connoisseurs. One of his pieces has been sold at as high a figure as £240. Mr. Walters, of Baltimore, has an excellent example by the elder Avisseau. With the exception of the works of Avisseau, Pull, and Barbizet, the imitations of Palissy ware are neither skilful nor in any way attractive; as independent works of art, accomplished on the suggestion supplied by him, they are hardly deserving of serious consideration.

Fig. 229.—Pitcher by Palissy. (Rothschild Coll.)

What is to be admired or condemned in Palissy as a man requires no mention; the admirable in him as a potter has been already pointed out (see Introduction, page 42). Passing now from his *rustiques figulines*, we find him, after his settlement in Paris, carrying his peculiar style into works of a totally different general character. In one piece a figure representing Charity is surrounded by a rustic frame, and a Magdalen kneels in another among shells and plants. In these, as in his rustic pottery, the figures are admirably executed

and the coloring vigorous. His palette was limited to a few colors, of which yellow, blue, and gray were the chief, although sometimes we find him introducing violet, green, and brown. Some tiles are attributed to him, but the statuettes formerly ascribed to him are

Fig. 230.—Barbizet's "Palissy Ware." (Tiffany & Co.)

now generally conceded to be the works of other hands. His vases, basins, and dishes are extremely varied, and are decorated with subjects taken from contemporary life and from history. A very remarkable vase now in the Louvre is blue, with yellow ornaments in relief, and not less characteristic are his large oval cisterns, with masques, foliage, fruit, and shells for ornaments. One of these (Fig. 231) is a perfect marvel of soft and harmonious coloring. The heads are white; the drapery white, with yellow fringe, and in its heavier folds blue; the fruit and feathers white, gray, red, yellow, and blue; the ground gray in tone, and composed of blue, maroon, and green. In two specimens of dishes the ground is white, upon which reptiles lie in strong relief. None of his pieces are signed.

One would imagine the idea to be prevalent that Palissy executed nothing but *Rustiques figulines*, if we are to judge from the tendency of imitators to produce pieces of that character, and from the prevailing taste of collectors, who appear to demand lizards and fish as essential to the correct imitation of the master. Having given as full

a view of his great works as may be necessary to appreciate their variety and beauty, let us revert once more to the fact that Palissy was original in two respects: firstly, in his methods; secondly, in his adoption of natural objects as models. He deliberately shut out all influences which might consciously or unconsciously have affected his aim; and as a consequence, although tin enamel and reliefs were in vogue all over France, he emerged from his obscurity, and lived through the period of his eminence without being affected by either German or Italian ideas or processes. He must be accepted as the exponent of an art emphatically French. His imitators have used his moulds, and his pupils have followed his styles; but even when possessing the secrets and skill, copyists seldom catch the intelligence of their master, and thus we find that on his death his art declined.

While Palissy was still in early manhood, the famous and wonderful Henri Deux ware, or Faience d'Oiron, had been made. There are only sixty-seven pieces in existence; and the mystery which for a long time enveloped its manufacture, its rarity, and its beauty, have both surrounded it with a peculiar interest and rendered specimens almost fabulously valuable. At a sale in 1865, no less a sum than $5500 was given for a biberon. This ware was made about 1530, by a potter named François Cherpentier, and Jehan Bernart, secretary and

Fig. 231.—Palissy Cistern.

librarian, both in the service of Hélène de Hangest, widow of Artus Gouffier, Sieur de Boisy. How this lady came to acquire a taste for ceramics, it is not, in view of what heretics call China-mania, hard to imagine. In any case, she built for Cherpentier and Bernart a work-

Fig. 232.—Henri Deux Ewer.

shop and furnace near the château of Oiron, and there the admirable Henri Deux ware was made. After the death of Hélène de Hangest, in 1537, Bernart appears to have continued his labors under the superintendence of her son. This faience, therefore, which has created more curiosity—the place of its manufacture was not known until 1862—than any other, and been more lavishly praised, owes its existence to the whim or enthusiasm of a woman.

It is an entirely exceptional ware. The paste is a pipe-clay, pure, fine, and white. Upon the first or inner layer, a second layer of a still finer and whiter clay was laid, in which the design was engraved. Colored pastes were then used for filling in the cavities, and the surface was then made level. So closely did the work resemble niello in metal that the name "Faience à Niellure" was given to the ware (Fig. 233). On the earlier works arabesques in zones, initials, and heraldic designs were thus engraved, chiefly in black, brown, and red. The zones are also frequently yellow, and the borders brown. A further ornamentation consists of frogs, shells, lizards, and wreaths in relief. After the death of Hélène de Hangest the decoration assumed an architectural character, and soon afterward the colors lost their beauty, the forms their elegance, and

Fig. 233.—Biberon. Henri Deux Ware. (Malcolm Coll.)

the art, as a whole, degenerated. For a period of about twenty years the faience was made which puzzled ceramists for over three centuries. Copies of this ware, by Minton of England, are in the Boston Museum of Fine Arts, and in the collections of Mr. Walters, of Baltimore, and Mr. W. L. Andrews, New York.

Having referred to the specialties of Saintes and Oiron, we now turn to the other centres of French ceramics, grouping all its porcelain together in a separate section. Beauvais, Poitou, and Hesdin have been already alluded to incidentally. Of the remaining seats of the faience manufactory in France, a few are selected for their importance as producing styles more or less distinctive, such as Rouen, Nevers, Moustiers, and Limoges.

Fig. 234.—Rouen Cup. Lambrequin Decoration.

Rouen may be taken as representing independent Norman art. Marreot Abaquesne was engaged there in enamelling from 1535, and two tile pictures from the château of Ecouen, dated 1542, are still in existence, representing, in blue, green, yellow, and white, Mutius Scævola and Marcus Curtius. Abaquesne worked until 1557, and after that date the manufacture of tiles was continued by others. In 1646 Nicolas Poirel, Sieur de Grandval, obtained a privilege or patent for making faience, and immediately transferred it to Edme Poterat, already established in the business in Saint-Sever. To this potter is, in all probability, due the most distinctive styles of decoration practised at Rouen, those resembling lambrequins and lace (Fig. 234.) These are modifications of the Oriental type. In 1673 another patent was granted to Louis Poterat, a son of the former, for the making of "porcelain similar to that of China, and of violet faience painted with white and blue and other colors, in the

manner of that of Holland." After the expiry, about 1700, of Poirel's patent, manufactories multiplied rapidly, and reached an aggregate of eighteen, from which some estimate may be formed of the number of artists and potters engaged at Rouen.

As to the successive styles, there is no doubt that designers drew largely from the works of the gold and silver smith. Flowers in wreaths and bouquets surround landscapes painted on white. Then came the senior Poterat's adaptation of Oriental designs in the lace and cognate styles already mentioned, at first in blue camaïeu, and afterward mingled with red. Equally well known is the brilliant decoration *à la corne* (Fig. 235), in which many-hued flowers issue from a cornucopia, and dazzling insects fill in the interstices between the flowers. All these styles have been imitated both throughout France and in other countries. No faience of the eighteenth century was more rich and artistic than that of Rouen. Many of the pieces are of large size and highly ornate in character.

Fig. 235.—Rouen Faience. Decoration, *à la corne*. (Trumbull-Prime Coll., N. Y. Metropolitan Museum.)

To Nevers it has been usual to accord the honor of being the earliest producer of enamelled pottery in France, but without good reason. The evidence appears to be rather in favor of Rouen. When Louis Gonzaga became Duke of Nevers, he sent for a number of Italian artists, and from that date, about 1565, the production of faience at Nevers took its rise. In 1578 the brothers Conrade came from Albissola, near Genoa, and, settling at Nevers, were patronized by the ducal family. Their works date from 1602, and it was not until thirty years later that a second manufactory was established. The influence of the Conrades upon the art is very doubtful, notwithstanding the monopoly they appear to have enjoyed. One thing may be accepted

as certain, that there existed a Nivernais style prior to that introduced by them. Louis Gonzaga, the patron, as we have seen, of ceramic art, died in 1595; and as the Conrades did not establish themselves until 1608, although they had been working for a few years previously, we have a period of forty-three years to account for, dating from the accession of Gonzaga, during thirty of which that prince was alive. The Nivernais styles may, therefore, be divided into the Franco-Urbino prior to the Conrade, the Italo-Chinese which existed under them, the Italo-Nivernais, and the Franco-Nivernais. The Franco-Urbino is marked by a predominance of blue and yellow, by violet tracings, a yellowish flesh tint, a peculiar copper-green, and a scarcity of red. A favorite form of vase handle is the dragon, and the sea is represented in lines of wavy blue. The styles of Persia, Japan, and China began to manifest themselves under the Conrades, and continued down to near the middle of the eighteenth century. We have, after the Persian, blue grounds with white and yellow ornamentation, and white grounds with polychrome and blue decoration. At the same time we find minglings of Italian and Oriental designs. After 1640, however, the traces of Italian influence become less distinct. The Italian school is disappearing, foreign artists are giving place to natives, and down to the end of the eighteenth century there are obvious traces of the styles of Rouen and Moustiers. From that time Nevers declined.

Moustiers has only been known for a few years, but facts have been discovered which prove it to have held a highly important place in ceramic art. Situated in the Lower Alps, its works were long attributed to other places, although its geographical position near Marseilles and Italy would naturally point to it as one of the most favored centres of Provençal art. It is chiefly known by the productions of the Clerissy family and of Joseph Olery. Pierre Clerissy's works extended from 1686 to 1728, and to this period some of the finest specimens belong. The pieces are generally large oval or round dishes, with hunting or scriptural scenes as central decorations, and borders either of flowers or masks and fabulous monsters and arabesques. The paintings are in blue, upon a very pure white enamel. In the succeeding styles the centre scenes after Tempesta were abandoned. One piece has in the centre a small medallion representing Diana, the huntress, equipped for the chase and accompanied by her dogs. Sur-

rounding it are arabesques, grotesque figures, heads, busts, and amorini, and for an outer border there is a narrow edging of the lace-like pattern of Rouen. Olery (Fig. 236) seems to have abandoned entirely

Fig. 236.—Moustiers Faience Dish. By Olery.

the styles of Clerissy. He enriched his palette with violet, green, brown, and yellow, and revelled in floral decoration. Heavy wreaths of flowers surrounding a series of medallions, with bouquets between, form a deep border for scenes from mythology and the classics.

Intercourse afterward obliterated the lines between distinctive styles. Olery went to Spain, and probably acquired there his taste for polychrome decoration (Fig. 237). Spanish artists accompanied him on his return, and worked, no doubt, in the light of their national traditions; and toward the end of the century it is impossible to recognize the styles of either individual artists or schools. Clerissy's workshop was continued after his death by his partner, Joseph Fouque, whose family retains it to the present day.

Allied to Moustiers, as representing the art of Southern France, is Marseilles, a city in every way favorably situated for the prosecution of the faience industry. Of its earlier works, dating as far back as the fifteenth century, nothing is known; but toward the end of the seventeenth century a workshop was founded, in which was made an authenticated faience. The distinguishing feature of the decoration is the combination of violet from manganese with cobalt blue. The style bears a general resemblance to that of Moustiers, and it is probable that the works of the two factories are frequently confounded. About 1750 the Marseilles faience was exported in immense quantities; and from that date, when the name of Honoré Savy appears in the list of potters, polychrome decoration became more prevalent. Savy was, in 1777, on the visit of the future Louis XVIII., authorized to call his workshop "Manufacture de Monsieur, Frère du Roi," and

Fig. 237.—Moustiers Dish. Polychrome.

is said to have then adopted the *fleur-de-lis* as his mark. The mark alone cannot, however, be accepted as indicating with absolute certainty a work of Savy. The same potter is said to have invented a particular green; but it appears to have been common to the other potters of Marseilles, as it is found upon pieces by Joseph Gaspard

Robert and Mme. Perrin. Robert ranks next to Savy in faience, and was making porcelain at the time of the royal visit.

In Strasburg we find the origin of a style of faience painting which, although displaying unquestionable excellence of workmanship, was carried to such an extent that the suitableness of the decoration to the earthen-ware body was completely lost sight of. Reference is made to the porcelain style, by which decoration more properly reserved for porcelain was applied to faience. The Strasburg paste is of comparative fineness, the glaze is excellent, and the colors brilliant. The first factory was established by Charles François Hannong in 1709. In 1721 Hannong associated himself with a German potter from Anspach, named Wackenfield, and in 1724 started a second workshop at Haguenau. The latter ultimately fell to Balthasar Hannong, a son of Charles; and the Strasburg establishment was carried on by another son, Paul Antoine. The latter worked industriously, and brought the establishment up to a very high position. On his death, in 1760, it was carried on by his son Pierre Antoine, who transferred it to Joseph Adam, his brother, and in 1780 the production ceased. The best period was that between 1740 and 1760, when Paul Antoine was proprietor.

The places mentioned, Nevers, Rouen, Moustiers, Marseilles, and Strasburg, are the centres from which emanated the leading old styles of decoration. An exact classification is impossible, since, as Marseilles faience often bears a striking resemblance to that of Moustiers, the works of Strasburg, on the other hand, are closely related to those from Marseilles. After them comes a centre, more interesting because very recently arriving at eminence, from which has emanated a style different from that of any of its predecessors.

Limoges is as yet scarcely known in the history of pottery, although there is a probability, almost amounting to a certainty, that it will hereafter be accepted as one of the leading representatives of the ceramic art of France in our day. We find, in 1737, a decree granted in favor of Sieur Massie, empowering him to establish a workshop of faience at Limoges. The discovery of kaolin at St. Yrieix appears to have directed the attention of potters from faience to porcelain. One piece of the Massie period, dated 1741, is now in Limoges. A border, resembling those of Moustiers, surrounds the fig-

ure of Justice enthroned and holding the sword and scales. Religion, Truth, and Law attend her, and Crime is crushed under her foot. Other equally remarkable pieces may be in existence, but Limoges nowhere appears in the records as producing any faience of importance or of a very high order of art.

Within the past few years the aspect of affairs has changed, and the Havilands of New York have made for Limoges—in conjunction with Auteuil, near Paris, where much of the moulding and decorating is executed—a place in the history of pottery as lofty as that which it occupies in the history of enamelling. Notwithstanding all that has been said of Saracenic and Italian decoration, we believe that it was reserved for Haviland to show the real decorative capacity of faience, and to demonstrate the possible harmony between decoration and its excipient. For a long time Limoges was known solely as a seat of the porcelain industry. It was in this way that Americans first became familiar with its name. When the time came for Haviland to turn his attention to faience the change above referred to set in. He did more than merely institute a revival of an obscure industry. While Montagnon of Nevers was following closely in the track of his predecessors, and other manufacturers, both French and Italian, were busy with imitations of dead styles, Haviland set a gigantic task before himself, and it is to the credit of Americans that they have been among the readiest to appreciate his works and to encourage his efforts. His faience is remarkable by reason of its combining three very important qualities—novelty of process, originality of decoration, and the strength of drawing and color which are most perfectly in keeping with the material on which they appear.

We have already pointed out the difficulties with which artists on clay have contended. The action of the fire made the result, in so far as the coloring is concerned, always more or less of a problem. Too much or too little heat changed the entire aspect of the piece. Although, therefore, we find in Italy and elsewhere great painters furnishing designs for the decoration of pottery, we seldom find them actually engaged upon the ware itself. Artists naturally prefer the medium which preserves their individuality of touch and finish. This personality the fire destroyed. All that was distinctive of the individual palette and brush vanished under the heat. What the exact nature

of the Havilands' new process and the composition of their palette may be we have not the means of discovering. We know, however, that the painting is laid upon the clay before it is fired, that the piece is then glazed, and is afterward baked for between twenty and thirty hours. Body, glaze, and colors are therefore subjected to the fire together. The glaze is alkaline, and is similar in its general character to that used on *pate tendre* porcelain. We need not inquire into the preparation of the colors. It is claimed that the possession of the latter brings the result of any operation within such bounds that it can be calculated with a reasonable approach to certainty. Let it be fully understood what this implies. It means that with palette practically unlimited, any artist can apply himself to the decoration of earthen-ware, and find his work emerging from the furnace stamped as clearly with the individuality of his design and execution as if he had applied it to a painting upon a panel or canvas.

Among the artists engaged upon the Haviland faience are M. and Mme. Bracquemond, MM. Lindeneher, Noel, Chaplet, Damousse, Lafond, and Delaplanche. With Messrs. Chaplet, Laurin, and Lafond, the new enamelling process may be said to have accidentally originated at Bourg-la-Reine in 1873, and M. Bracquemond was the first to appreciate its value and to bring it under the notice of the Messrs. Haviland. The latter at once saw its merit, and by farther experiment and the use of the resources at their command, brought it to perfection. The works of their artists have made America as familiar with their faience as it formerly was with their porcelain. The process having been discovered, the second step was the adoption of a style. Here we meet with a peculiarity of the ware. We speak of schools of painting, and our language implies a limitation, a peculiarity of *technique*. All artists who follow nature closely must needs belong to the same school. Their success in the reproduction of natural effects is a bond of union, which brings them together across the boundaries of special methods of treatment. Each of Havilands' artists may have his specialty, but we find no broad dividing lines. Their subjects are taken from nature or from imagination, which is only a wider field based upon the natural. The sympathy between them lies in the new sense of the capabilities of their art. The brush is wielded with a stronger hand, and the designs appear bolder, at times

Fig. 238.—Memorial Vase. Haviland Faience. (Smithsonian Institution.)

almost [illegible]. There is [illegible] after what [illegible] called a "[illegible]." Nowhere [illegible] used to [illegible] we [illegible] pottery. There are no [illegible] of [illegible] but designs of [illegible] and strong simplicity. Color is applied with [illegible], which carries the convention that [illegible] adapted to its kinds of earthenware.

[illegible] workshop of [illegible] painted, [illegible] describes what [illegible] and [illegible] the vases [illegible] [illegible] question, is [illegible] figures [illegible] everything [illegible] perfect. If [illegible] with [illegible] of [illegible] the effect of [illegible] indeed [illegible] of the vases, and [illegible] [illegible] the [illegible] of [illegible] [illegible] [illegible]

(Smithsonian Institution.)

almost reckless. There is no striving after what might be called "prettiness of style." Where we have been accustomed to restraint we find largeness and liberty. There are no longer minute divisions of surfaces to be covered in detail with graceful precision, but designs of full artistic completeness and strong simplicity. Color is applied with a commensurate boldness, which carries the conviction that here at last we find a decoration suited to its basis of earthen-ware.

A recent visitor to the workshop of Haviland & Co., near Paris, where much of their faience is painted, thus describes what he saw: "While in Paris, I studied the way in which the vases are painted, and was surprised to find what an amount of care is expended upon them. They demand more exact treatment than China or English faience. The artist works as if the material were canvas. A bouquet of flowers, for instance, is minutely painted, and the shades of the grounds are all carefully studied. Nothing is left to chance. During the process of firing everything fuses, and it is then that the appearance of boldness is produced. If a vase were painted, as on a cursory examination it appears to be, with a bold brush and careless hand, the result would be a mere daub of no value. The peculiar talent of the artists consists in producing an effect of boldness and carelessness with a great deal of work and a close imitation of nature. Could all the work actually bestowed upon one of these vases, and as it can be seen before firing, be seen after firing, the faience of Limoges would resemble that of England or any other pottery which is painted on the glaze. But the process is different, and after the firing the detail of the work melts away, leaving behind that fascinating harmony of colors which has never before been produced on any pottery. Nothing has as yet been invented to replace work and care; and when anything you may see presents something pleasing, be certain that both have been lavished upon it. No writing or music seems so easy to imitate as that which cannot be imitated; and it is the part of a good author to conceal the method he employs."

There are now in the Smithsonian Institute at Washington three pieces of Haviland faience which may be taken as exemplifying much of what has been said. These are the Memorial Vases (Fig. 238) and Bracquemond's tile-piece allegorizing Human Progress. Let us take the vases first. They are the joint productions of MM. Bracquemond,

designer, and Delaplanche, sculptor, and are intended to commemorate the Centennial of American Independence. The broad and easily understood conception is intensely American, and was, in fact, due to American inspiration. They fitly stand in the capital, not only as lasting memorials of the hundredth anniversary of America's entrance into the great commonwealth of nations, but as a congratulatory compliment from the ceramic artists of France.

Viewed in the light of history and of historical usage, they both acquire a fresh interest, and are better understood. They are exceptions, in the idea they represent, to the myriad ornamental vases which load our cabinets and shelves. We have already seen that, from the most ancient days of Egypt downward, vases were employed for the conveyance of religious sentiments. The Chinese followed the same course, and joined with it the custom of using pottery as a reward, or for the purpose of conferring a mark of imperial distinction upon officers deserving well of the state. Vases were also made the media between friends for the conveyance of compliments or congratulations. We might, in this connection, revert once more to the Greeks, who carried the Oriental practice still farther. By that people vases were, as we have seen, used as prizes, as wedding presents, as pledges of love or friendship, the legends they bear enabling us at this distant day to listen to the whisperings of passions which burned and died over two thousand years ago. We also find such commemorative vases as that which bears the legend, "The beautiful horse, twice conqueror at the Pythian games." On many others are inscribed the names of the great men of antiquity, its kings and its poets. Some of these belong to times posterior to those in which the persons they were intended to honor lived, and may, therefore, be called commemorative in the same manner as statues. Throughout the Middle Ages we find the same usage more widely prevalent. When, therefore, the artists of France decided upon commemorating the American Centennial, they had, as a precedent for making a memorial distinctive of their art, the usage of the potters of all countries back to the most remote times.

In regard to design and decoration, these vases will bear consideration in detail. There is one very large class of Greek vases which represent what we have called the union of pottery and sculpture. In one we have the helmeted head of Pallas Athene surmounted by

a figure of Nike, or Victory. On others are Tritons bearing Nereïds, Medusa's head, pennate figures, and the winged steeds of Aurora. The artist had no thought of utility to hamper him in designing accessories. It is said that M. Bracquemond, while in the Louvre, was attracted by one of the Grecian vases of this class found in Apulia (see Fig. 167). The style is full of grandeur and pomp. The form of the vase would be heavy and clumsy were its outline unrelieved by the decorating figures. On the neck stands a divinity in graceful drapery. Lower down, on the sides, are two statuettes of deities, and on either side of Minerva's head surmounted by Nike in front are two Tritons, with their horse-feet pawing the air. This vase suggested to M. Bracquemond a design for the Memorial Vases in Washington. All that he thus derived, however, was merely a suggestion.

The details of the design may be gathered from a description of the vases themselves. One is intended to represent the year in which the United States won independence; the other the hundredth anniversary of that event. Between them is a whole century of history. The vase "1776" rises from a base consisting of greenish, foamy waves, lashing angrily against rocks surmounted by a circlet of cannon modelled after the ordnance of Revolutionary times. In this we have the whole story of the struggle for independence, and of the turmoil and confusion of the strife. It is worth noting that this symbolical use of the wave ornamentation is strictly classical. When the potters of Greece sought a symbol of caprice and mutation, they could find none more expressive than the foam-crested waves of the sea. From the cannon the body of the vase swells gracefully outward, and attains its widest girth near the top, where it curves rapidly inward to the upper rim. The orifice is closed by a star-covered dome of blue, from either side of which spring statuettes of Fame and Victory. On a pedestal on the rim in front stands a bust of Washington, modelled by Houdon, after one formerly owned by Lafayette, and now in the Louvre.

The ornamentation on the body is simple and expressive. Green fronds cross each other above the cannon, and smaller branches and stars are sprinkled over the whole surface. On the front is the American eagle with outstretched wings, with the national colors on either side. Above it, and immediately under the bust of Washing-

ton, in small gilt letters, are the names of the signers of the Declaration of Independence.

The base of the Centennial vase, "1876," symbolizes peace and prosperity by means of fruit, cereals, and the implements of husbandry. Above the eagle, in place of the names of the signers of the Declaration, are those of the Presidents, from Washington to Grant, and the surmounting bust represents Columbia. In other respects the two vases are alike. The story they tell is plain, and for every observer to read. Out of the struggle of a hundred years ago have come liberty, peace, and prosperity. The designer was exposed to dangers which he has coped with successfully. He has achieved something grateful to American patriotism without throwing originality aside. The American flag, the eagle, Washington, and the Goddess of Liberty, compose a group which, but for their artistic combination, might have been viewed with the indifference begotten of familiarity. As they stand, it becomes hard to conceive how otherwise, in equally intelligible language, a great historical event could have been commemorated in the everlasting record supplied by clay. They are records, and not mere ornaments. They mirror the first century of America's life as a nation. They tell all or nearly all that history can tell of the passage from the struggle of 1776 to the prosperity of 1876.

The story of their formation is interesting, that of one applying to both. The body was modelled by M. Renard, chief modeller at Sèvres. He worked incessantly on the inside for thirty-four hours without resting more than a few minutes at a time, in order that his work might be finished before the clay lost any of its plasticity by the evaporation of the moisture. When this operation was completed the body was allowed to dry for fifteen days. A kiln was then built round it, its great size—the vases are twelve feet high, and the largest ever made in Europe — rendering removal impossible. It was fired for eight days at a low temperature, and then for three days at a high degree of heat, and the result of the stupendous work was in every way successful. The furnace required eight days to cool. If anything more is needed to enable us to estimate the immense labor involved in such a work, it may be summed up in this, that these vases demanded thirteen months' work of some of the ablest artists and potters of France.

It is difficult to criticise them apart from the sentiment they embody, and which invests them with a never-fading interest. It was, however, a touch of genius to get away from immediate usage to a style of ornamentation with which the artists of Magna Græcia and Apulia embellished their vases. It is the style best suited to their enormous size. The enamel is applied only to the ornamentation, the body, busts, and statuettes being all left unglazed and showing the natural color of the clay. Every detail is made expressive, while the strictest simplicity is retained. The size of the work forbade minute ornamentation of a symbolical character, and there is thus a harmony between the entire work and the details. The colors are brilliant, and the general effect, though sombre, is imposing and fine. They will be viewed hereafter with increasing interest, as marking the revival of an old complimentary usage under particularly gratifying conditions; and the grandeur and beauty of the art they represent is not likely to be forgotten in the contemplation of the sentiment they express.

We turn to the tile-piece in which, upon nearly a thousand tiles, M. Bracquemond presents his allegory of Human Progress, with a mingled feeling of dislike and attraction. It also stands in the Smithsonian Institute. The repellent influence is first experienced, and arises, probably, from an apparent absurdity of design and the peculiar coloring. A figure of gigantic size occupies the centre, trampling fire underfoot, and having a greenish bronze statuette in the right hand and a vase in the other. On the left are the chimneys and smoke of a factory, and on the opposite side is a railway train. A flash of lightning strikes in from the right, and above the central figure is the recumbent form of a woman partially enveloped in cloud. The picture, as we have said, is allegorical, and represents the genius of man utilizing the waters of the rebellious stream and storm, the fires of the volcano and lightning, and making them subservient to progress. As it is more closely studied, its true place in art is better understood, and we ultimately accept the piece as an indication of the possibilities of M. Bracquemond's art. We feel that another stage has been passed on the way toward the perfect union of the potter's and painter's skill, and toward the picture "permanent as the Pyramids" of which Ruskin writes.

Many of the other tile-pieces, panels, and plaques (Fig. 239) from

Limoges and Auteuil are more absolutely excellent. On a circular plaque appears a draped female head, in which the flesh tint, clear and ruddy, is simply wonderful. The delicacy which it lacks is found on two panels, perfect rural pictures, with single female figures. These pieces illustrate the fineness of landscape effect and the nicety of touch to which the artist in possession of Haviland's palette can attain. The trees stand out well against the sky, its blue slightly shaded with

Fig. 239.—Haviland Faience. (H. Havemeyer Coll.)

cloudy gray; and if we turn from these to the figure-drawing, the arrangement of the drapery, even the finish of the embroidery, we feel that we are in presence of an art of the decorative and artistic capacity of which we are only catching the first glimpses.

If we pass now to the vases of this ware, we are struck by the originality of their shapes, the freedom of their designs, and the remarkable depth and beauty of their coloring. There is nowhere visi-

ble any symptom of the nervous feeling after a doubtful result characteristic of an artist without confidence in himself and his process. Everything indicates strength, assurance, and power; and if there is weakness anywhere, it is evidently the result of a boldness which is overhasty or too careless of finish and detail. We find no precedent for the decoration. It is as far removed as possible from all that is associated with China or Japan, from the majolica of Italy, Spain, or Berlin, from the stone-ware of England, or the faience of Sweden.

Fig. 240.—Haviland Faience. (G. W. Gibson Coll.)

Fig. 241.—Haviland Faience. (Whitelaw Reid Coll.)

The forms of the vases are of boundless variety, and suggest originality by their very multiplicity. One would carry us back to the pottery of ancient Gaul before it had felt the heavy hand of Rome. Another recalls the Anglo-Saxon vases of England. A third would lead us, in searching for a precedent, to the clumsy, rotund urns of ancient Germany. These would all be equally fanciful, no doubt; and in that suspicion one is confirmed by the exquisite forms of a small *pichet*, a quaint card-receiver, and a vase rising to its slightly out-turned lip as gracefully as the cup of a flower.

We may take a few examples in order to illustrate the decoration. It consists of painting on the surface, of carved figures in unglazed relief, and of forms glazed and attached to the surface. Of

the first of these the choice is wide. On some appear hunting dogs full of life and action and in many attitudes. On another is a Cupid with full-drawn bow, rosy and chubby, and evidently bent upon deal-

Fig. 242.—Luna Vase. Haviland Faience. (Mrs. William H. Dannat Coll.)

ing a fatal wound. On a third is a nymph and satyr (Fig. 241). A fourth shows us a barn-yard pair, a duck and drake, the latter preening himself in the sun, under which his many-hued plumage glitters

with a lustre almost iridescent. On a fifth a gayly feathered open-throated songster appears to be warbling his even-song upon a tiny spray. Flowers are painted with all the splendor of nature, and cling round the forms with gracefully sweeping stem. One in particular is made attractive simply by its color, a mottled gray, into the depths of which we look as into the clouds hanging over the couch of the sun in the early mornings of summer. Its beauty is in its suggestiveness, which strikes us again in many of the flower-wreathed vases where there are openings of green, into which one can look as into a forest glade. The mind creates what the eye cannot see, and the glade is peopled with beings whose forms are never caught. This is, no doubt, an example of fancy helping out the artist, but the artist is none the less fortunate and skilful who can thus induce the fancy to take wing. He leaves her room to take flight, and the vase he has decorated with a simple flower becomes a poem suggesting far more than it tells.

Of the vases showing unglazed carvings in bas-relief there is a single pair, sufficient for illustration. On one is represented Phœbus, the golden-haired god of day, and on the other the triform goddess Luna. Phœbus stands with bow drawn full to the shoulder, just as we picture him in Homer. It will be remembered that when Lyrnessus was taken by the Greeks and the spoils divided, Chryseis, the wife of the king of the captured place, and daughter of Chryses, one of the priests of Apollo, fell to the share of Agamemnon. Her father sought her restoration from the "king of men," and on his request being refused, asked aid from the god he served. We here have Apollo in the attitude of returning an answer to his suppliant priest.

> "Bent was his bow, the Grecian hearts to wound,
> Fierce, as he moved, his silver shafts resound;
> Breathing revenge, a sudden night he spread,
> And gloomy darkness rolled around his head.
> The fleet in view, he twang'd his deadly bow,
> And, hissing, fly the feather'd fates below.
> On mules and dogs the infection first began,
> And last, the vengeful arrows fixed in man."

On the companion vase (Fig. 242) is the figure of the goddess of night, Luna, Diana, or Hecate, in her character of Luna, with the crescent under her feet, and throwing back a mantle from her graceful

form. In both vases the beauty of the conception is skilfully carried out in the execution. The figures are admirably modelled, and, being of a light paste and left unglazed, stand out in bold relief against the ground. The daring of the latter innovation is amply justified by the result.

Fig. 243.—Faience Vase. (Mrs. Colonel T. Scott Coll.)

Of the third class of vases with glazed ornaments applied to the body there are many fine specimens. One of the most charming (Fig. 243) is wreathed by flower sprays twined naturally and gracefully

round the body. The flower is in full bloom, and its large leaves are spread out above it and below. For handles there are snakes turning in their changeless coil round the flower stem. On another the handles consist of butterflies beautifully moulded and colored, and placed as though they might have been transformed into clay as they alighted on the vase. Another, of small size and quaintly rotund form, has a mass of leaves and flowers in relief clustering round the body. A pitcher with a soft gray ground is lightly overrun with an ivy branch, which twines itself round the neck and handle as naturally as the plant creeps up and winds itself round the stem of a tree.

Can anything be more simple than the suggestions to which these creations are due? Do we need to be reminded of the fable which explains how Callimachus was inspired to produce the Corinthian capital? We are told that he was walking in the country, and as he travelled he came to the grave of a child, upon which, in a basket, some relative—its mother, probably—had placed the customary offering of food. To keep off the birds and small animals, a tile had been laid upon the basket. In course of time an acanthus appeared; and as it grew, its stalk was pressed back by the tile and turned round spirally under its edge. Nothing more was needed. Callimachus found in the little basket on the flower-grown grave a suggestion for the order of architecture which has never been surpassed to this day. We have similarly, in the faience vases of Haviland now under consideration, constant hints of inspiration drawn from the simplest forms of nature. A branch falls upon a vase and becomes its ornament. A butterfly hangs for a moment on fluttering wing and drops from its flight, and it too becomes an ornament. The workman leaves his unfinished work at night, and when he returns at day-break, finds that a lizard or an asp has crept upon the still slimy vase to bask itself in the first rays of the morning sun. It darts out of sight, but it has left an idea which appears in the decoration; and on the spot from which it glided when disturbed a snake displays its spiral convolutions.

Where but in nature shall we see anything suggestive of such decoration? We do not find it in Japan, for the symbolical and semi-imaginative, semi-realistic style of the extreme East has nothing in common with this naturalism. As little do we find it among the

brilliant colors and fantastic forms of Persia. If we come nearer home, to Italy, even to the French centres we have already visited, there is nothing in their classical scenes and floral wreaths and bouquets to prepare us to find in Limoges their orderly successor. In a word, the style is original. There is no crowding of tints for the sake of their rich beauty. A single flower lying on a ground of one prevailing tone is sufficient ornamentation for a vase; or a handful of flowers may be scattered upon the surface in tumbled profusion, or woven into a wreath. Haviland has entered upon a hitherto undiscovered path, and let us pray that he may never be tempted to try the porcelain decoration which threatened to ruin faience, nor to give us anything more meretricious than the beauty of a garden flower or of the many other admirably conceived forms which he has endowed with life.

Fig. 244.—Haviland Faience. (Miss Clara Louise Kellogg Coll.)

The best pieces have been chosen for commendation and to illustrate the highest results to be expected from the new process. It is unquestionable, however, that there are many pieces of this faience which could be disposed of without seeking words for the expression of enthusiastic praise. This gives those desiring specimens every opportunity for the exercise of a judicious discrimination. In some pieces the simultaneous melting of the color and glaze has resulted in a haziness of outline and confusion of colors by no means characteristic of the better examples. On others with figure decoration the drawing has been completely destroyed, and the figure left in obscurity. These inferior pieces are useful, however, for showing how careful must be the work which produces the bold effects securing our admiration.

When Haviland took up the process discovered by MM. Chaplet, Laurin, and Lafond, at Bourg-la-Reine, he secured the services of two

of these artists. The third, M. Laurin, carried out the process at the place of its discovery. Many of this artist's works come to us bearing his mark and the name of the factory, Bourg-la-Reine, in full. Like that of Haviland, his work is occasionally irregular; but, as a rule, it is entitled to very high commendation. The flower decoration is extremely beautiful, and when laid upon a soft ground, such as the gray, which Laurin produces to perfection, is entitled to nearly all the praise bestowed upon the corresponding works from Haviland's factory. The Bourg-la-Reine faience is chiefly painted on the flat, and the leading decoration consists of flower and figure painting. We meet with many well-selected subjects and much strong and realistic treatment. On one vase appear an eagle and a serpent on an excellent ground of gray and blue, the former of which is also employed with fine effect in a variety of flower pieces.

Fig. 245.—Bourg-la-Reine Faience. (G. Collamore.)

Fig. 246.—Bourg-la-Reine Plaque. (Tiffany & Co.)

A very common mistake is made regarding this faience. It is often confounded with that of Haviland, although the differences between the two fabrics are obvious. In the first place, the marks can be consulted. That of Limoges

is stamped "H. & Co."—or, Haviland & Co.—with or without the place of manufacture. The artist's mark also is generally attached. The Bourg-la-Reine is marked either with the name "Laurin" or "B.-la-R.," or with both. In the second place, the alkaline glaze of the Haviland faience gives the paintings, especially of flowers, a life-like appearance peculiar to itself. It is a mistake to suppose that the processes of decoration are identical in every particular. In one respect only they are alike. In both, the colors are laid upon the unbaked clay. In the mixing of the colors and in the glaze they are distinct. Laurin's decoration is harder in outline than the Limoges, and never possesses the mingled softness and strength which constitute the great charm of the latter.

Fig. 247.—Deck Faience. (Corcoran Art Gallery.)

Of the early history of Bourg-la-Reine little of general interest is known. It appears that Jullien and Jacques of Mennecy founded a workshop there about the year 1773. Jullien died in 1774, and was succeeded by his son, who resigned his share in the business to Jacques. When Jacques died, in 1799, his son, C. S. Jacques, continued the fabrication. At a later period fine white faience was made. It is upon Laurin alone that, in this country, the reputation of the place depends.

The name of Deck, of Paris, brings before us much that is beautiful in the recent ceramics of France. For a long time, in fact, his name was supposed to represent nearly all that was excellent in the color and decoration of European pottery. Having enriched his palette with a wealth of colors which made him the envy of his cotemporaries, he turned his attention to reviving Oriental styles in hues rivalling those of the East. He was first attracted to Persia, and with marvellous skill applied his rich enamel colors to the reproduction of the faience of that country. In other cases he is manifestly inspired by Japanese

art. His technical skill enables him to reach widely varied effects, and since to this are added truthful drawing and a fine taste in the assortment of tints, we can easily understand his eminence in the art. Specimens of his best work are comparatively rare in this country. The faience vase from the Corcoran Art Gallery (Fig. 247) is characteristic, and is an excellent example of M. Deck's coloring. The ground is a soft yellow or buff, and the plumage of the pheasant is brilliant and rich. The blue tints are especially fine, and the glaze, which is judged to be alkaline, gives the coloring that peculiar softness which is found in the greatest perfection on *pate tendre.* There is considerable doubt as to the body used by Deck. It varies very much in different pieces, approaching in some cases the hardness and compactness of porcelain. Of this character is the bottle, Fig. 248. The ground color of this specimen is a clear blue, and in it the white blossoms appear in thick clusters. A vase and plaque, with a somewhat similar, but possibly even a finer body, are shown at page 325 (Figs. 280 and 281). That given here (Fig. 249), singular alike in form and color, has a

Fig. 248.—Deck Bottle. (Gilman Collamore.)

Fig. 249.—Deck Vase. (Gilman Collamore.)

Fig. 250.—Colinot Faience. (Tiffany & Co.)

ground of undecided shades of brown and yellow. Deck's violet is soft and rich, approaching at times the velvety violet of China.

The other names most familiar to Americans are those of Colinot, Parville, Longwy, Creil, Sarreguemines, and Montereau. Their products illustrate the taste for Oriental styles which sprung up a few years ago, and to the gratification of which much of the ingenuity of French makers has been devoted. Colinot, of Paris, has employed with great skill colored enamels in the imitation of Japanese work. On one cylindrical vase (Fig. 250) he has laid in strong relief, upon a dark-buff ground, flowers and leaves exactly after the models supplied by Satsuma and Kioto. On other specimens the decoration is outlined upon a white ground, and filled in with enamel colors. The method is productive of a clear hardness of outline, but the results are seldom unpleasing and often very attractive. Colinot has succeeded in obtaining several excellent colors. The vase (Fig. 251) is a rich purple, on which the flowers are laid in white and green. The treatment is similar to that of Deck, but the ground is less brilliant and clear. Colinot also acquired considerable reputation by his faience with colored stanniferous enamel. We give an example (Fig. 252) of his treatment of large pieces. The ground is a pale blue, and the medallions are admirably painted. The color is subdued throughout.

Fig. 251.—Colinot Vase. (Gilman Collamore.)

The Creil workshop was established some

time during the eighteenth century, probably about 1780, by a number of English potters. Its earliest works appear to have consisted chiefly of services of a semi-porcelaneous paste. The Worcester method of transfer-printing and then painting the design in colors was adopted, and successfully handled. The founders transferred the establishment to Le Bœuf, Milliet & Co. and De St. Criq & Co. Porcelain was made until 1860, after which the production was restricted to English faience. The paste cannot, however, be distinctly qualified, as it varies from the original semi-porcelain to cream-colored ware. The latter has a wide reputation, both for its quality and its decoration under the glaze.

The Montereau establishment was, like that of Creil, founded by Englishmen. Letters patent were granted on March 15th, 1775, to Clark, Shaw & Co., to make English faience and queen's-ware. The firm started under very favorable auspices, receiving an annual allowance of 1200 francs for ten years, probably for the purpose of naturalizing the industry. Its wares helped to overturn the manufacture of French faience, and were imitated at several places, including Toulouse and Sarreguemines. In 1790 there were two establishments at Montereau. As at Creil, M. De St. Criq, in 1810, acquired the right of protection, and in 1829 assigned it to Lebœuf & Thebaut.

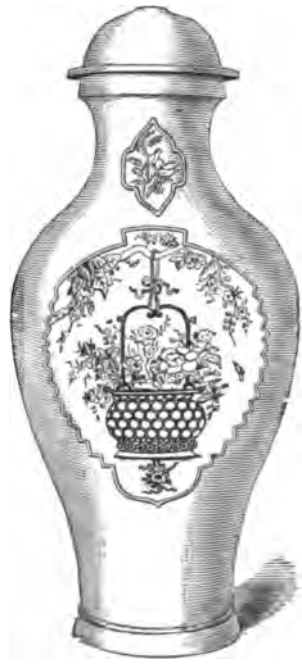


Fig. 252. — Colinot Faience. (Tiffany & Co.)

At Longwy the manufacture of faience was begun about forty years ago, when M. Huart de Northcomb was proprietor of a workshop. Its name is now found upon many excellent specimens of faience with colored stanniferous enamel. In the bottle and tray (Fig. 253) a rich effect is produced by the employment of two shades of blue in the scaly ground. The oval medallions and other ornamentation are yellow, with leaves and flowers in green and pink. It is one of the best examples we have seen from this factory, which is one of the largest of its kind in France. The pitcher (Fig.

254) has a ground of undecided very pale yellow, and the leaves, flowers, and birds are variously colored. Our third specimen, an oval

Fig. 253.—Longwy Faience. (Gillman Collamore.)

plaque (Fig. 255), has, in its design and the brilliancy of its coloring, a decidedly Oriental appearance. In the other examples the ground is broken up by a crackle more or less open and irregular; but in the plaque the white enamel is veined with fine and regular darkly colored cracks, which bring the ground to a soft and pleasing gray. The flowers are red and pink, and the foliage green, turning at times to blue. The bird is brightly plumaged with blue and other colors. In this, as in the other pieces, the ground alone is crackled, and the decoration has the appearance of being graved in the enamel and then filled in with the requisite colors.

Fig. 254.—Longwy Faience. Crackle. (G. Collamore.)

Parville, of Paris, makes enamelled faience of the same general description; and the vase chosen to represent it (Fig. 256) deserves attention both for the peculiarity of its form and for the illustration it gives of

a French modification of the Persian style of decorating. The ground is a dull and sombre shade of dark-blue, upon which the ornamentation is laid in light-blue, white, red, and two shades of yellow.

Gien faience, like those of Creil and Montereau, belongs to the class of ware with a colorless plumbiferous glaze, and its decoration is often remarkable both in design and color. In the vase with which we represent this faience (Fig. 257) the design is outlined on the biscuit, and the colors are then applied. The earlier products of Gien are said to be imitations of the styles of Marseilles. A more artistic faience, resembling the Gien, is made by M. Elysse at Blois, in the old Italian styles of the fifteenth and sixteenth centuries.

Fig. 255.—Longwy Faience. Crackle. (Tiffany & Co.)

Fig. 256.—Parville Faience. (Tiffany & Co.)

The Sarreguemines factory was founded in 1770, by Paul Utzchneider, and is now carried on under the firm of Utzchneider & Co. It turns out both faience and porcelain. Figures and groups in porcelain biscuit and artificial porcelain are made. The factory is also known by a fine white stone-ware. In the fine faience of Sarreguemines, certain works may be found which are, in many respects, the most extraordinary of the present time. Imitations of jasper, marble, granite, and porphyry, are produced of the most beautiful description, and other pieces resemble the jasper-ware of Wedgwood, with white decoration on a blue ground. The vase (Fig. 258) can hardly be described in words. Among the varied contents of Mr. Collamore's collection, it is perfectly

Fig. 257. — Glen Faience. (Davis Collamore Coll.)

unique. The ground is a deep and brilliant black, upon which the decoration is laid in white, gold, and blue, dotted with drops of jewel-like enamels. The handles are blue and gold. The design can be distinctly followed in the engraving, but even a colored plate could hardly do justice to the enamels, or give an idea of the general effect.

Niederviller has made faience in the Strasburg style since at least the beginning of the eighteenth century, and about 1760 was producing pieces with delicate flower paintings. It was then under the patronage of Baron de Beyerlé, and afterward of Count Custine, under whose proprietorship the porcelain style was farther developed. A curious specimen is given by Jacquemart, in which the ground of the plate is painted to imitate wood, and in the centre is a reservation simulating a sheet of white paper with a landscape in pink. In 1768 the Baron de Beyerlé was making a good quality of porcelain from German material. Under Count Custine, François Laufrey was engaged as manager. Charles Sauvage, or Lemire, made small figures and groups in biscuit, and Cyfflé also executed some of his works at Niederviller.

The name of this artist, Paul Louis Cyfflé, is, however, more intimately associated with Luneville. The faience workshop of Luneville was founded about 1729, by Jacques Chambrette. In 1778 it was acquired by Keller & Guérin. The styles of Nevers and Strasburg were both successfully followed. It was here that Cyfflé made his statuettes of fine "terre de Lorraine."

Fig. 258.—Sarreguemines Faience. (G. Collamore.)

In the same district are the factories

of Nancy and St. Clement. The former produced faience in 1774, and a peculiar kind of biscuit which takes its name from the place. The factory was founded by Nicolas Lelong. Very little is known of the St. Clement works, though they are said to have been in operation in 1750. In 1835 they were under the directorship of M. Aubry. Both Luneville and St. Clement have been more recently known by their stanniferous faience.

St. Amand holds an important position in the history of French art. It is one of the places, including Lille, Dunkirk, Valenciennes, and the other faience-producing towns of Flanders, which enabled France to domesticate, in a measure, the manufacture of ware resembling that of Delft. The paste of these faiences is identical with that used in the great Dutch establishment, with which they very soon came into competition. The history of St. Amand extends from 1740 down to the Revolution. It was founded by Pierre Joseph Fauquez, was continued by his son, Pierre François Joseph, until 1773, and by his grandson, Jean Baptiste Joseph, until the Revolution. The earlier style of decoration is based upon that of Rouen; the second is after that of Strasburg. One of the distinguishing features of this faience is the use of white enamel in relief upon the glaze, which is faintly tinged with blue.

Having already touched upon a few of the leading names of modern Paris, there yet remains to be said something of its previous history. The relics discovered within the city belong to every period, from the Roman downward; and it may therefore be said that the metropolitan potters have been as busy, comparatively speaking, in the past as they are to-day. Faience was made from the beginning of the seventeenth century, and Réverend was, in 1664, making imitations of Delft, "thin, with a white enamel, with clear polychrome colors, often excessively pure." This is M. Jacquemart's description. Notwithstanding the privilege accorded to Réverend, many other workshops appear to have made faience throughout the whole of the eighteenth century, and it is generally impossible to tell them from the wares of Rouen and elsewhere, which they imitated.

Artistic faience was made at Sceaux for about forty-five years previous to 1795, by Chapelle and Glot successively. Gros-Caillou, St. Denis, Vincennes, St. Cloud, and Sèvres were all more or less engaged

in the manufacture of faience. We find Pierre Antoine Hannong, from Strasburg, at Vincennes in 1767, but he met with little success.

There are many other places at which faience was made, some, like Nantes, Bordeaux, and Orleans, of importance, and others of which little is known besides their names. A list of them would add nothing to our real knowledge of French art, which has been chiefly influenced by the styles of which we have most fully treated. To the accounts of them has been added all that could be learned regarding Limoges, Creil, Sarreguemines, and a few Parisian and other workshops especially interesting to the collectors of the present day.

PORCELAIN.

Efforts to Make Porcelain.—First Artificial Porcelain.—St. Cloud.—Lille.—Paris.—Chantilly.—Mennecy.—Vincennes.—Sèvres.—Natural, or Hard, Porcelain.—Discovery of Kaolin.—Various Factories.—Limoges.—Deck.—Regnault.—Solon.—Pate Changeante.—Pate-sur-Pate.

We have already seen that the discovery of artificial porcelain preceded that of natural, or kaolinic, porcelain. In treating of the faience of Rouen, we quoted, from the letters patent granted to Louis Poterat on the 31st of October, 1673, a passage to show that he meditated the production of porcelain similar to the Chinese. A privilege was also granted to Claude Réverend, of Paris, in 1664, which bears that he possessed the secret of making a "counterfeit porcelain, as fine and finer than that which comes from the East Indies." All that Réverend achieved was a very fine faience; and Poterat, having met with success as a maker of faience, probably renounced the prosecution of the search for porcelain, although he may be said to have arrived at or very near success. The first French artificial, or soft, porcelain known to commerce was that made by the Chicanneau family at St. Cloud in 1695 (Fig. 259). It is first noticed by Martin Lister, a traveller, in 1698. Henry Trou, having married the widow of Pierre Chicanneau, became head of the manufactory of St. Cloud; and a family quarrel having taken place, Marie

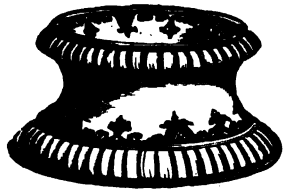


Fig. 259.—St. Cloud Porcelain Salt-cellar. (Jacquemart Coll.)

Moreau, widow of one of the Chicanneaus, established herself in Paris. The earliest marks of St. Cloud porcelain are the sun and the letters S. C. and T., the former dating from 1702 to 1715, the latter from 1715 to 1730. The sun was the device of Louis XIV., and the letters

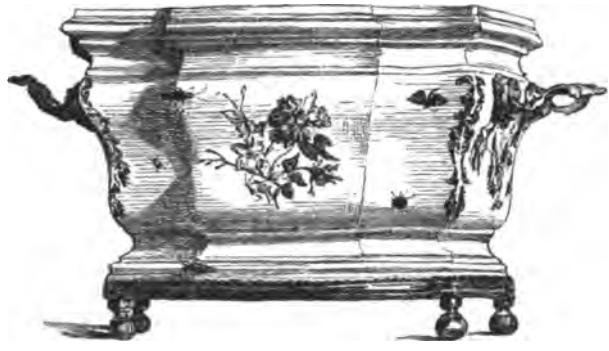


Fig. 260.—Vincennes Porcelain Cooler. (Duke de Martina Coll.)

afterward used were the initials of St. Cloud and Trou. The paste was close and white, and the glaze uneven. The decoration soon became varied in character, some pieces, with birds and flowers in relief, resembling the Chinese, and others of French patterns in blue, with arabesques or lace borders.

The attempts of Poterat and Réverend, and the more perfect success of Chicanneau, indicate the prevalence of the desire to solve the mystery of Chinese porcelain. Experiments were being conducted almost everywhere, and the success of the potters of St. Cloud gave a new zest to the search. A manufactory was founded at Lille in 1711; at Paris, by the offshoot of the St. Cloud family, in 1722; and at Chantilly in 1725, where the porcelain of Corea was taken as a model. Ten years later Barbin was established at Mennecy, and in 1739 the philosopher Réaumur, led away by the universal search, arrived at a devitrified glass, which went under the name of "Réaumur's porcelain," though in no sense deserving such a name. With 1740 we reach the establishment of the royal manufactory at Vincennes (Fig. 260).

Two brothers named Dubois, formerly of St. Cloud, offered to sell their secret to the Intendant of Finance, and were given the necessary means to carry on the production at Vincennes. These men did not

fulfil their promise, and were succeeded by one of their workmen, named Gravant. The celebrated Madame de Pompadour used her influence with the king to induce him to favor an enterprise the success of which would make France independent of Saxony. The result was that the manufacture quickly rose to eminence. Chemists, artists, and goldsmiths were engaged in designing and decorating. Flowers were modelled and painted in a style so closely resembling the natural that the king is said, upon one occasion, to have mistaken the artificial for the real. In 1753, the position of manager was given to Eloi Brichard. Louis XV. took a third of the capital upon himself, and the name of "The Royal Porcelain Manufactory of France" was conferred upon the establishment. The workshops at Vincennes became too small, and in 1756 a removal was made to a new building erected specially for the purpose at Sèvres.

Fig. 261.—Old Sèvres Pate Tendre. (August Belmont Coll.)

The imitations which had annoyed Adam, the director who preceded Brichard, continued under the administration of the latter. The king then took the entire establishment into his own hands, and appointed M. Boileau director. Such was an eighteenth century toy of royalty. The king, accompanied by the Pompadour, paid regular visits to Sèvres, which was well worthy of being a royal possession. Everything that art could suggest in the form of gardens and groves had been done to embellish it. Even a private chase was provided for the artists, where, in hunting the boar and stag, they relieved the labors of the studio. Never, possibly, were artists so favored by patronage and place, and the productions of Sèvres were worthy of the sunshine in which it

basked. Its flowers and vases admit of no classification. Figures were also made in biscuit (see Fig. 226). Chemists vied with each other in the invention of colors, and the *bleu de roi*, Hellot's turquoise blue (1752), the Pompadour pink (1757), violet, greens, yellow, and iron-red followed each other in rapid succession, and were employed with dazzling effect. Special mention need only be made of the jewelled porcelain (Figs. 262 and 263) on a *bleu de roi* ground. The successive directors after Boileau were: Parent, 1773–1779; Regnier, 1779–1793; Commissioners, with Chanou and afterward Salmon, Ettlinger, and Meyer, jointly as inspectors, down to 1800; Brongniart, 1800–1847; and then MM. Ebelman, Regnault, and Robert in succession. The specimen

Fig. 262.—Old Jewelled Sèvres Pate Tendre. Cup diameter, 2¼ in.; Saucer circumference, 18 in. (Mrs. J. V. L. Pruyn Coll.)

Fig. 263.—Jewelled Sèvres. (H. C. Gibson Coll.)

here given (Fig. 264) is one of a pair dated 1772 and 1781 respectively, which formerly belonged to Louis XVI. On his request they were sold by Governor Morris, in order to raise money, and were bought by Dr. Hosack, of New York. The scene in the medallion represents Louis XVI. in his cabinet, and the nurse bringing in the newly born Dauphin.

Fig. 264.—Sèvres Pate Tendre (1772–1781). *Bleu de Roi* Ground. (Mrs. C. B. Hosack Coll.)

Meantime the paste was still artificial, and the researches for a natural, or hard, porcelain were not relaxed. In 1769 the discovery of kaolin and petuntse at St. Yrieix, near Limoges, led to the introduction of hard paste into Sèvres. In 1804 M. Brongniart decided to abandon the manufacture of artificial porcelain, and soon afterward regretted having taken such a step. In 1847 M. Ebelman, Brongniart's pupil and successor, decided to revive the *pate tendre*, and for four years made use of a body which had been prepared by Brongniart forty-five years previously. The clay, instead of being thrown away, as Brongniart thought, had been stored throughout the long period of its neglect, and both saved the new director any trouble in experimenting, and supplied a standard for the future. The production of soft paste has been continued, but the quantity is inconsiderable. Mr. Walters, of Baltimore, has in his collection a valuable *pate tendre* vase dated 1860.

To give in detail the events which led to the introduction of natural porcelain into the royal factory, we must turn back to the year 1721, when Wackenfeld was attempting to utilize at Strasburg the knowledge he had brought from Germany. Hannong was engaged

in the same enterprise; and his son, Paul Antoine, after endeavoring in vain to carry on the production in competition with the artificial porcelain of the royal factory, and engaging in fruitless negotiations with Director Boileau, at last retired to Frankenthal. His son afterward took the Strasburg works in hand, but failed. All this porcelain was made from imported material. That of Paul Antoine resembles in decoration the works of Meissen, and his son followed both the Saxon and Sèvres styles.

Fig. 265. — Charlotte Corday Vase; Sèvres Porcelain, Mounted. Red and Gold. (White House.)

In 1758 an event happened of the first importance to the making of a true French natural porcelain. This was the discovery by the Count de Brancas Lauraguais of an inferior quality of kaolin near Alençon. The specimens of the ware in which it was used show a coarse body, and decoration after the Chinese and Japanese types. Shortly afterward Gérault, or to give his name in full, Charles Claude Gérault Daraubert, the proprietor of a faience establishment at Orleans, engaged in the manufacture of porcelain. A privilege had been granted to the Orleans workshop, in 1755, to make a white faience, and the making of porcelain appears to have begun about 1764, on the acquisition by Gérault of a kaolin mine at St. Yrieix-la-Perche. In 1765 Guettard, chemist in the establishment of the Duke of Orleans at Bagnolet, came upon the kaolin deposit at Alençon originally discovered by the Count Lauraguais. Within a few years, also, Robert was making porcelain at Marseilles.

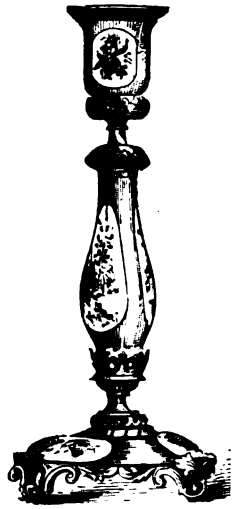


Fig. 266.—Old Sèvres, Mounted in Metal. Dark-blue Ground. Height, 9¼ in. (Mrs. J. V. L. Pruyn Coll.)

The next events of importance are Madame Darnet's discovery of kaolin at St. Yrieix, and Macquer's experiments with it at Sèvres. As at

Strasburg, the mistake was made at Sèvres of mixing the kaolin and petuntse in the wrong proportions, and the result of the excess of felspar was a very translucent glassy body. The first pieces and those of artificial paste were so nearly alike that, to distinguish the former, they were marked with the well known double L and crown. They may also be known by the color being laid upon the glaze. In the soft paste the colors appear to be sunk in the glaze. When Brongniart, in 1804, stopped the production of *pate tendre*, the works of the royal factory began to assume the forms and to be decorated in the styles with which the world has been familiar for the last seventy years. "The largest pieces," says Jacquemart, "were undertaken, and sculpture and painting united to enrich gigantic vases. Plaques of forty-six by thirty-six inches were given to distinguished artists, who reproduced in unalterable colors the frescoes of Raffaelle, the masterpieces of Vandyke, Titian, and of the modern school." Of modern Sèvres we give one example (Fig. 268), to which some interest attaches as belonging to a service presented by the French Government to Miss M. F. Curtis, distributor of funds sent from Boston for the relief of sufferers by the war with Germany in 1870–1871.

Fig. 267.—Franklin Vase. Sèvres. Blue and Gold. Inscription on Vase, "Vue de la Maison de Franklin à Passy." (White House.)

Fig. 268.—Sèvres Porcelain Tea-Set. (Curtis Coll., Boston Museum of Fine Arts.)

To give an idea of the value of the Sèvres porcelain, it may be mentioned that Napoleon, following an example set by Louis XV., sent to the King of Etruria a vase worth about sixty thousand dollars. Tea-sets worth $1000, vases at $1500 and $5000, are mentioned as being in the royal collection in England.

Fig. 269.—Washington's "Cincinnati" Sèvres.

There are several specimens of Sèvres porcelain, formerly preserved at Arlington House, and now in the Patent Office at Washington, to which a historical interest attaches. There are, firstly, some pieces of the "Cincinnati China" (Fig. 269) presented to George Washington by the French officers who fought in the continental army. They are white, with deep-blue bands of leaves and scroll-work, and have on the bottoms or sides the figure of Fame holding in her left hand the Order of the Cincinnati. There are, secondly, several remnants of the set presented at the same time, and by the same gentlemen, to Mrs. Washington (Fig. 270). The rim of each piece is surrounded by a chain of thirteen links, in each of which is the name of one of the original States. In the centre of each plate and saucer, and on the side of each of the other pieces, is the monogram of Martha Washington, surrounded by a green wreath of laurel and olive leaves. A golden

Fig. 270.—Mrs. Washington's Sèvres Tea-Service.

aureole surrounds the wreath, beneath which is a ribbon scroll with the motto, *Decus et tutamen ab illo.* The colors are at once delicate and brilliant, and the painting admirable.

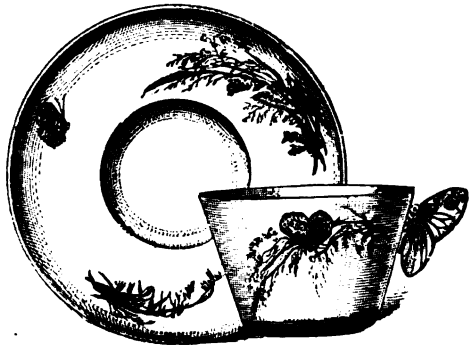


Fig. 271.—Limoges Porcelain. Cup and Saucer. Painted by Pallandre. (S. S. Conant Coll.)

Manufactories rapidly sprung up in other French towns — at Niederviller, where German kaolin was used; at several places in Paris; at Bordeaux, Clignancourt, Lille, Valenciennes, Vincennes, Limoges, and elsewhere. Fauquez made porcelain at Valenciennes in 1785, and the works were taken by Lamoninary in 1787. Hannong was employed at Vincennes in 1786, and marked his pieces with two pipes crossed, with or without the letter H. The industry was afterward protected by the Duke of Chartres, when the monogram L. P. was adopted as the mark.

The porcelain of Limoges is probably better known in this country than any other, through the enterprise of the makers, whose works in faience have already arrested our attention. The proximity of Limoges to St. Yrieix would alone lead us to view it as an important centre. After the discovery of kaolin, the brothers Grellet, Massié, and Fourneira established a porcelain workshop in 1773. The mark C. D. occurs on many remarkable works. In 1784 the manufactory was absorbed by Sèvres, Gabriel Grellet acting as di-

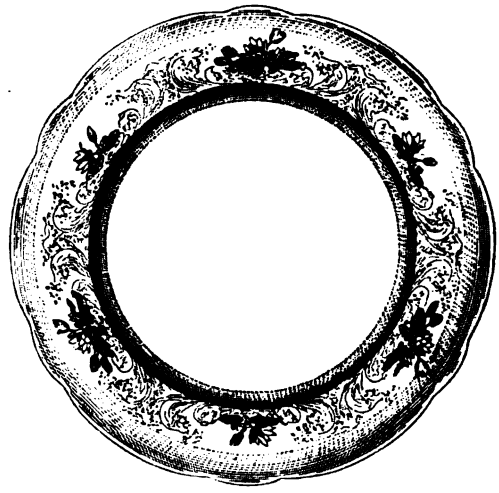


Fig. 272—Limoges Porcelain Plate. Painted by Pallandre.

rector. The paste was then very pure and white, but deteriorated; and Alluaud succeeded Grellet in 1788. Another change was made in 1793, and the works were again carried on as a private enterprise in the hands of MM. Joubert and Cancate. In 1794 the convent at Limoges was converted into a manufactory, and another rose in 1798, in the hands of the elder Alluaud, who was succeeded by his son. Though highly commendable in purity of glaze and compactness and whiteness of paste, his porcelain was inferior in decoration.

Fig. 273.—Limoges Porcelain. (Mrs. Colonel T. Scott Coll.)

The next we hear of Limoges is through David Haviland, of New York, who went from this country to Limoges upward of forty years ago. His firm worked steadily in the manufacture of porcelain, chiefly of a domestic character, before they conjoined it with that of faience.

At the present time Haviland & Co. make a domestic ware of exceptional purity and of great

Fig. 274.—Limoges Porcelain. (Gen. A. J. Meyers Coll.)

Fig. 275.—Limoges Porcelain. (Whitelaw Reid Coll.)

beauty of design. One set is modelled after and decorated with the water-lily, and others are of equal simplicity and beauty. The rule in these and in more strictly ornamental pieces is, to follow a chaste and refined style, marked by a limited use of color. The rule we laid down for the decoration of porcelain — that it should never be loaded with colors less beautiful than its own glaze — is here more closely followed than anywhere else occurring to us. Here, for example, is a set of plates painted with different scenes, such as a snow-storm, morning, night, before a shower, during a shower, and other similar subjects. The details are not wrought in with obtrusive precision. Something is left to imagination, and the effect of every view is perfect. They are painted by M. Bracquemond.

We nowhere find a better successor to the "egg-shell" of China than in the delicate, pure, and fragile specimens of thin porcelain from Limoges. This is an exceptional fabric, but there is elsewhere to be seen enough to substantiate the excellence of French porcelain for domestic use, in point of both beauty and strength. We have seen certain small coffee-cups so finely wrought, exquisitely modelled, and chastely colored, that when not in use they might serve as ornaments. The point to which painting on porcelain has been brought is further illustrated by a series of dessert

Fig. 276.—Limoges Pate Tendre. (H. J. Jewitt Coll.)

plates ornamented with different kinds of fruit—grapes, peaches, and other varieties. The supreme delicacy with which the requisite tints are here applied is admirable. On others are different kinds of sea-weed and other marine objects, in which the artist has caught the natural hues with wonderful precision. The porcelain vases are, as a rule, small in size. No attempt, so far as we are aware, has been made to follow the gigantic works of Sèvres, Meissen, and Berlin, and we do not regret the fact. The works with which we are presented show great skill in the colors obtained, and the shapes are simple and sometimes severe. The domestic porcelain of Limoges deserves careful study for the sake of the refined taste which it invariably reflects.

Fig. 277.—Dinner-set in Limoges Pate Tendre.

The most highly artistic pieces are in *pate tendre*, or artificial paste. Considering the difficulty of manipulating the body and its liability to sink in the furnace, many of the old Sèvres pieces must be regarded as marvels of workmanship. We look with a similar interest upon the examples coming to us from Limoges. It has the honor of having produced the only complete dinner-set ever made of this ware (Fig. 277). Its beauty is parallel with its value, which we hardly dare estimate. Beautifully modelled and plumaged birds form the dish handles, and a simple accessory decoration on the body reveals to perfection the peculiar appearance presented by *pate tendre* of having the colors sunk in the soft and creamy glaze.

Haviland & Co. have attained an exceptional success in colors. A complete toilet-set of *pate tendre* is turquoise blue of great richness and transparent depth. The modelling corresponds with an

Fig. 278.—Psyche, in Blue Pate Tendre.

achievement in color which has been the despair of ceramic artists for centuries. Deck is the only French maker who, before the Havilands, approached the old turquoise of China. The art has long been lost in the East. Deck's pieces, however, are apt to craze or crack in irregular breaks, and this was thought to be unavoidable until Haviland made crackle closely resembling in color the rare old Chinese. Of the same material are two recumbent Psyches (Fig. 278), one in blue, the other in pink. In no more poetic form do we remember to have met the winged nymph who turned against Cupid the darts with which he was wont to afflict humanity. A set of three graceful vases (Fig. 279) with reticulated necks, and each supported on a tripod of goats' feet, is painted in blue, gold, and pink. The forms are graceful and the coloring refined. The paintings of Poitevin and Du Liege on these and other pieces are characterized by the most exquisite delicacy. M. Pallandre, the Parisian flower-painter, has also lent to the porcelain of Haviland & Co. the beauty conferred by his dexterous brush.

Fig. 279.—Pate-tendre Vase.

An excellent domestic ware, also made at Limoges, is largely imported by the manufacturers, Charles Field Haviland & Co., of New York. The greater portion of it is undecorated; but lately the makers have been turning their attention to decoration, and artistic work of considerable merit now comes from their establishment.

Fig. 280.—Deck Vase. (G. Collamore.)

Before leaving France, the names of Deck, Solon, and Regnault may be allowed to stay our progress. The Messrs. Deck, of Paris, have, as we have seen, made a special study of color, and were the first, or among the first, to revive Oriental decoration. Their Persian ware, or imitation of the old art of Persia, is characterized by much of the beauty of the original. Their blue, as we have seen, is especially commendable, and enabled them to compete with the enterprising imitators of England, the Mintons, who have for several years been in possession of a blue very little inferior to the turquoise. It is to be regretted that Deck was not represented at the Centennial Exhibition, where, by the richness of his palette, he would have had an opportunity of extending his reputation in America.

Fig. 281.—Deck Plaque. (G. Collamore.)

M. Regnault, who succeeded M. Ebelman in the directorate of

Sèvres, was the inventor, while at the Sèvres manufactory, of *pate changeante.* The ware appears, during the day, like gray céladon, and at night, under artificial light, changes to a beautiful pink, whence its name.

The name of M. Solon recalls at once the peculiar style of decoration called "*Pate-sur-pate,*" or paste upon paste. The process has been long known in China, and was first attempted in Europe by M. Ebelman at Sèvres about thirty years ago. The experiments were successful, and some very fine works were issued. The process was taken to England from Sèvres by M. Solon, who was engaged a few years ago by the Messrs. Minton (Fig. 282). In Mr. A. B. Daniells's collection at the Centennial Exhibition, some examples of *pate-sur-pate* by M. Solon attracted general attention. There were two pairs of vases of a pure Greek shape, with a body of a rich bronze or chocolate color. On this, in white relief, were figures symbolizing Fire and Water, and a group of the Graces accompanied by Cupid in a race. The forms were exquisitely drawn, and were half revealed by the semi-transparent drapery. More usual grounds are a dark green and a grayish tint, either of which has a soft effect. A second specimen is given at Fig. 352.

Fig. 282.—Minton Porcelain. Pate-sur-pate, by Solon. (Wales Coll., Boston Museum of Fine Arts.)

This method of treatment consists in applying to the surface to be decorated white liquid porcelain as a pigment. The application is repeated until the necessary relief is obtained, when the figures are finished by carving or scraping. Repeated firings are necessary before glazing, and the decoration, which is opaque while wet, becomes more or less transparent, according to the thickness of the pigment. The process is one of the nicest and most difficult in the entire range of ceramic art, as a mistake once made cannot be remedied, and the glaze has a tendency to destroy the fine outlines of the figures.

CHAPTER VI.

GERMANY AND CENTRAL EUROPE.

Early Pottery.—Lake Dwellers.—Early German.—Peculiar Shapes.—How Peasants Account for Relics.—Roman Epoch.—Tin Enamel.—Leipsic.—Breslau.—Nuremberg.—The Hirschvogels.—Villengen.—Höchst.—Marburg.—Bavaria.—Switzerland.—Belgium.—Delft.

The early pottery of Germany and Central Europe dates from the Stone Age down to the Roman incursion, when the types change, and the evidences of more perfect mechanical appliances become apparent. The Lake Dwellers, who built their huts on piles in the lakes of Switzerland, have commemorated themselves by hand-wrought vessels, to the embellishment of which a decoration of the rudest kind was brought. Remains have been found throughout Germany, of which some are hand-made, while others are evidently thrown upon the wheel. These are both pre-Roman and contemporaneous with the Roman occupation. The paste varies from a friable clay to a hard, ringing stone-ware. Vases of a great variety of shape have been found along with cups, plates, saucers, and jars. Some of the vases are divided, like boxes, into compartments. The ornaments are paintings, mouldings, and incised lines. The painting consists of parallel lines of red, yellow, and black. Some of the smaller pieces were apparently used as toys. Others, of a sepulchral character, are thought to resemble the huts of the lacustrine dwellers. One found at Achersleben has a tall, conical cover, like a high-thatched roof, and the orifice in front is covered with a plate having a ring in the centre, through which a pin being passed fastened it on the outside. The orifice was in this way closed after the ashes of the dead had been introduced (Fig. 283). These and similar remains have been found in various parts of Germany, and have given rise to many superstitious stories among the peasantry. By some they are said to be the natural

produce of the soil. Others ascribe them to the all-powerful fairies. Others consider them possessed of wonderful preservative properties. As to the art they represent, we are convinced here, as we are in a parallel manner, though more forcibly amidst the remains belonging to ancient Gaul, that the Romans were not the first to inspire the Teutonic population with a desire for the expression of artistic ideas. We find both an awakening sensitiveness to the graces of form, and a growing appreciation of the possible beauty of surface decoration.

With the Romans we find pottery both made on the spots where they settled and imported from the seats of the ceramic industry in Italy. These display the usual Roman characteristics, and need not

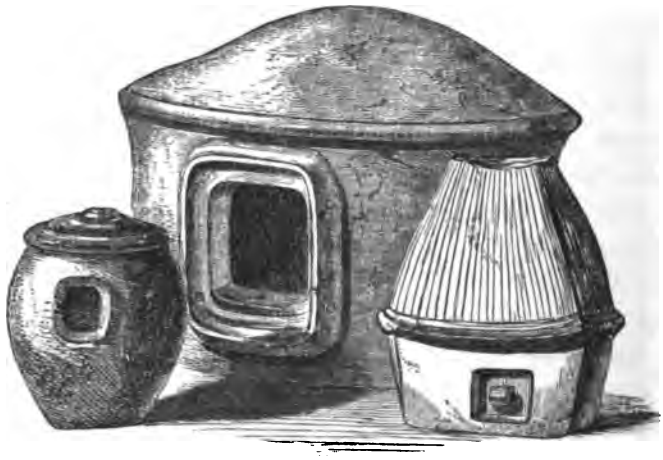


Fig. 288.—Ancient German Hut-shaped Vases.

be here considered. Crossing the Dark Ages, we find, in the thirteenth century, Germany in possession of processes for the presence of which—so far removed from their accepted centres and from the regular routes by which they travelled—it might be hard to account if it were absolutely necessary to travel by the regular route. We have seen this already in the case of early France. We see it again in Germany. Possibly the Romans may have taught their barbarian subjects something about glazing. Possibly some wanderer to Palestine and the East or to the Saracenic settlements in the South of Europe, or some stranger from these "foreign parts," may have initiated the German potters in the higher secrets of the art.

In any event, Germany was making enamelled faience at least two centuries before Luca della Robbia had perfected his process in Italy. A potter of Schelestadt, in Alsace, is said by the Germans to have discovered tin enamel. Even his name is now forgotten, although his death is said to have occurred in 1283. At Leipsic is a glazed frieze, dated 1207, and at Breslau, in 1230, architectural reliefs of great excellence were produced. Two hundred years later, in 1441, Veit Hirschvogel was using stanniferous enamel. At Strehla, in 1565, the potters were so well skilled in the working of terra-cotta, that they had made a pulpit of that material. One is almost led by these facts to question if Germany did not lead both Italy and France, and to regret that the history of German ceramics has not been more fully opened up to us. One danger let us guard against, for the sake of securing the intelligent understanding of Germany, incompatible with either partiality or prejudice. We need not confound conservative tastes with a "very slow march of ideas." One rather loves to find an artist so impressed with what is good in his own art, that he is in no haste to leave it in order to catch the first whiff of foreign inspiration. Ideas evidently circulated at a tolerably high rate of speed in a country where the enamelled friezes and monumental bas-reliefs of Leipsic and Breslau existed in the beginning of the thirteenth century.

To Leipsic, therefore, Germany is indebted for its first enamelled ware. The friezes above mentioned consisted of tiles with *alto-relievo* heads of Christ and the Apostles. The enamel is dark green. What occurs to us at once is that no art ever *began* with such works, and that in them we have the successful results of long experiment.

Breslau is made famous by a large work of the same century, representing Henry IV. of Silesia, who died in 1290. The monarch lies stretched upon a tomb surrounded by twenty-one bas-reliefs.

The Hirschvogels of Nuremberg have thrown a lustre upon their birthplace by their faience decorated with enamelled reliefs. The founder of the family, Veit Hirschvogel, was born in 1441, and died in 1525; and one of his sons, Augustine, has left some very artistic works in the prevailing style of ornamentation, with medallions and decorations in relief. One vase has green dragon handles (Fig. 284); and the fact that this style existed in Nuremberg at the time when Palissy was travelling in Germany, has led to the supposition that he

may have acquired the rudiments of his art under Hirschvogel. The same city was deservedly celebrated for its tiles ornamented with bas-reliefs, generally of the deep green distinctive of the greater proportion of German pottery. The style was at a later period carried to a greater extent, as we find upon different vessels several animal forms in high relief, and even the vessels themselves modelled after the animals of the country.

Fig. 284. — German Enamelled "Surprise" Vase. By Hirschvogel.

At Villingen, in the Black Forest, Hans Kraut, who died in 1590, carried the same branch of art to great perfection, his tiles and bas-reliefs marking him as a successful and talented disciple of the school of Nuremberg.

Höchst and Marburg were both important seats of the industry, and at the former we find a vase having its neck ornamented with white reliefs, like the cameos of Wedgwood. During the seventeenth and eighteenth centuries the industry was established in many places throughout Germany, and styles of western and southern origin make their appearance. The faience of Anspach, Bavaria, follows the style of Rouen, and at Nuremberg, in the eighteenth century, the early Faentine style is making itself felt. The Bavarian towns of Göggingen and Baireuth both produced pieces of great beauty and refinement. On some from the former appear bouquets, birds, and arabesques, and one from the latter is ornamented—with what delicacy of effect may be imagined—with a figure and medallion surrounded by blue arabesques laid upon the white enamel. Before the middle of the eighteenth century Nuremberg had instituted its modern style, blue arabesque borders on a bluish glaze surrounding centre-pieces of fruit, etc.

SWITZERLAND.

In Switzerland we know Zürich, Schaffhausen, Winterthur, and one or two other places. Of these, Winterthur is probably the more

ancient, pieces occurring dated 1678 and 1689. The styles are akin to the Italian—deep-bordered dishes with regularly arranged groups of fruit or flowers, or blue arabesques running round the margin. Escutcheons or fortified castles form the centre decoration. Precision and stiff, scrupulous care characterize the drawing.

BELGIUM.

Belgium, in at least two of the seats of its ceramic wares, has been closely allied with France. From Antwerp, the great centre of Belgian art, issued majolica of Italian styles in blue and yellow, violet and green, and another quality after the Oriental porcelain patterns. Toward the middle of the seventeenth century, if not earlier, Antwerp was in close relations with France. Tournay was of French origin in so far as its faience is concerned, and it was not until its workshop passed into the hands of Peterynck, of Lille, that it rose to eminence. The pieces attributed to it show a compound of Rouennais, Flemish, and Chinese decoration. Brussels had carried the art in 1761 to such a height, that its faience was said to be preferable to that of Delft and Rouen, with which it is possible it may sometimes be confounded by collectors. At Tervueren, near the capital, some pieces still in existence were made which are decorated with wreaths and bouquets and armorial bearings executed in colors of moderate purity.

HOLLAND.

For our present purpose, all Holland may be said to be comprised in the single town of Delft. Its works date from 1310, and may be divided into two eras, that preceding the making of "porcelain," and that during and after the fabrication miscalled by that name. The Delft faience is thin and hard, and was decorated with landscapes and scenes by the best painters of the time. It was made into

Fig. 285.—Delft Blue-and-white. Eighteenth Century. Chinese Style. Height, 17¼ in. (Mrs. John V. L. Pruyn Coll.)

tiles, large plaques, baskets, vases, statuettes, and many other forms. Toward the end of the sixteenth and beginning of the seventeenth centuries, when the Dutch were laying the foundation of their trade with Japan, the fine quality of faience, which has never been equalled by any other country, began to be produced. We find this imitation of Oriental porcelain officially recognized in 1614, and for a hundred and fifty years it was currently referred to as porcelain. In reality it was a fine faience, modelled and decorated after the peculiar forms and patterns with which their trade with Japan had made the Dutch almost exclusively familiar. The paste, which consisted chiefly of the clay of Bruyelle, near Tournay, was skilfully mixed with sand and carefully manipulated. The sand made it hard, and gave it a capacity for being wrought into thin pieces suitable for table services. The bluish enamel was perfectly smooth and even; and the decoration, chiefly in blue and iron-red, after the Oriental designs, imparted to it much of the appearance of Japanese porcelain.

Fig. 286.—Delft Blue-and-white. Eighteenth Century. Size, 21 in. by 18 in. (Mrs. John V. L. Pruyn Coll.)

It is not to be wondered at that, as the processes were perfected, the reputation of Delft increased, and its commerce grew in proportion, and that no symptoms of decay manifest themselves until toward the end of the seventeenth century. The genius of both potters and painters ran riot among curious forms and decorations. One author mentions dinner services with dish covers resembling in form and

color the birds to be served in them; a spice cupboard resembling a Chinese Mandarin, and other curiosities. Another strange form was that of a violin, one of which is painted in blue camaïeu, with figures engaged in a dance, and musicians.

STONE-WARE.

Countess Jacqueline.—Teylingen.—Graybeards.—Fine Stone-ware.—Grès de Flandre.—Creussen.

This ware, distinguished, as we have seen, by its vitrified fracture, although long known in the East, does not appear in Europe until between the thirteenth and fifteenth centuries. When it was first made in France has not been ascertained with sufficient exactness, and to Germany the credit of instituting the fabrication has generally been accorded. We find it throughout the provinces on the Rhine at a very early period, and it probably passed down the Rhine to Holland and thence to England.

The name of the beautiful and unfortunate Jacqueline of Bavaria, Countess of Hainault and Holland, is connected with the making of stone-ware by a very curious tradition. Jacqueline was the daughter of William IV., Count of Hainault and Holland, at whose request she married John, Duke of Brabant. This was the beginning of her troubles. A jealous and disappointed suitor, John of Bavaria, Bishop of Liege, marched against Holland, and having compelled the countess to nominate him as her successor, bribed her husband to transfer to him the management of her estates for a term of years. The countess, having good reason to be disgusted with men in general, and with her husband and quondam suitor in particular, fled to England after appealing in vain to Rome for a divorce. In England her beauty captivated the Duke of Gloucester, who espoused her cause as a preliminary to espousing herself. The duke marched against her husband of Brabant, who, assisted by his cousin of Burgundy, defeated the invader. Gloucester deserted Jacqueline, fled to England, and took a less involved bride. The countess in the mean time was imprisoned; but she escaped, and on the death, in 1425, of the prelate of Liege, resumed her rightful position. Then she was relieved by death of her hus-

Fig. 287.—Graybeard. Brown German Stone-ware.

band, and was again involved in war by the Duke of Burgundy, whom she was forced to declare her heir. A second marriage into which she entered so enraged Philip—who, by-the-way, is known in history as, *par excellence*, "The Good"—that he arrested her husband, and would have executed him, had not Jacqueline handed over her coveted property to "The Good," and in 1433 retired to the privacy of the Castle of Teylingen. Three years afterward she died, at the age of thirty-six.

From what we can make out, the countess was twice an occupant of Teylingen, once in 1424, on escaping from imprisonment at Ghent, and the second time, as above mentioned, in 1433. On both these occasions she appears to have occupied herself with the superintendence of the stone-ware works, and even with fashioning the vessels with her own dainty hands. After they were made, we are told—although it is altogether incredible—that the flagons were thrown into the Rhine, either as mementos of her imprisonment, or "that they might in after-ages be deemed works of antiquity." Providing for posterity in that peculiar manner does not commend itself to one's reason, as in any way in keeping with the career of the Countess Jacqueline. There was a custom in Paris for patriotic citizens to assemble in the gardens adjoining the Seine, and there to relieve themselves by toasting and singing and flinging the empty flasks into

Fig. 288.—German Graybeard, found in England.

the river. These have been found, with the legend "*Vive le Roi!*" inscribed on them, after the fashion of the Moyenage potters. The Germans had a similar manner of keeping the toast from future impurity by throwing away the vessels in which it was drunk. Probably in this way the "Vrouw Jacoba's Kannetjes" found their way into the Rhine and the moat of Teylingen. It is easy to imagine the potters toasting their lovely co-worker and superintendent, and, in the excess of their admiration and loyalty, tossing away the flagons, that

Fig. 289.—Fine German Stone-ware.

Fig. 290.—Fine German Stone-ware.

they might never be drained to a less worthy toast. The story is attractive enough, and it is almost a pity that the pots which have been found are not of a high artistic rank. None of them is ornamented.

To the "common stone-ware" belong the pots called Graybeards (Fig. 287), from the bearded heads moulded on the necks. Many of these, though well formed, are rudely ornamented, and are of a very coarse composition (Fig. 288). The finer ware, which was made after the beginning of the sixteenth century, is divisible into two classes, the older belonging exclusively to the sixteenth century, and of a gray

white or pale yellow, the other of a bluish and gray tint, made down to the present time. This is the ware commonly called *Grès de Flandre*, although, so far as we know, Flanders never produced any, and the ware so designated is a purely German fabrication. The canettes, or tall cups, of a nearly cylindrical shape, sloping slightly inward toward the top, and belonging to the first class of yellowish white stone-ware, are of very elegant form, and are beautifully ornamented with reliefs, made from moulds of wood and admirably executed. The subjects are sometimes scriptural, sometimes heraldic.

To the second class of blue and gray stone-ware with salt glaze belong some of the best specimens of the art (Figs. 289 and 290). They date from 1500 to 1620, after which came the decline. The Bavarian town of Creussen made a peculiar stone-ware ornamented with colored reliefs. Of this we have samples in the "Apostle" mugs, so called from the reliefs surrounding them, and in a series of jugs with hunting scenes. These belong to the seventeenth century.

The Böttcher stone-ware will be noticed under porcelain, to the invention of which in Germany it was the first step.

PORCELAIN.

Böttcher.—His First Productions.—Meissen Porcelain.—Decoration.—Best Days of Meissen.—Its Decline.—Vienna.—Höchst.—Fürstenburg.—Höxter.—Frankenthal.—Nymphenburg.—Berlin.—Holland.—Weesp.—Loosdrecht.—The Hague.—Switzerland.—Zürich.—Nyon.

It will always be the distinguishing honor of Germany that the Saxon Böttger, or Böttcher, was the discoverer, for Europe, of a true kaolinic natural porcelain. The circumstances have already been detailed (see p. 52). While Böttcher was prosecuting his experiments in 1708, he had the furnace filled with trial pieces, which were fired for several days before a piece was withdrawn. A teapot was at length taken out and thrown into cold water. It was not porcelain, however, but a red stone-ware, very hard, and with a metallic ring when struck. It was called "red porcelain," probably to suit the wishes of the experimenter and of his royal patron. A teapot of this ware has been sold in England for sixteen pounds sterling. A very good example of it is now in the possession of Mr. Davis Collamore,

of New York (Fig. 291), who was fortunate enough to pick it up in one of his European tours in quest of rare "bits." It is undecorated, and shows admirably the rusty red color of Böttcher's experimental stone-ware. Others of his early essays are almost black in color and are painted in relief. Several pieces are in the Metropolitan Museum.

Fig. 291.—Böttcher Stone-ware. (D. Collamore.)

Whenever the kaolin of Aue was discovered, Böttcher, on his first attempt, succeeded in making natural porcelain. Though Meissen, where a workshop was erected without delay after the discovery, was kept like a prison or fortress, and every precaution observed to insure secrecy, although every man connected with the works was under oath to keep silence in regard to anything he might see or discover, the precautions were all in vain. The knowledge oozed out, and in a very few years Meissen had several rivals. White ware was made down to 1718. The Nankin blue was the first colored ware imitated, and after 1718 other colors were introduced. Böttcher died in 1719, and was succeeded in the directorate by Horoldt (Fig. 293), who carried out several great improvements, and mingled the previous exclusively Oriental designs with some of a more purely European character. Heavy gilt borders surrounded figures, flowers, or the royal arms. In 1731, while the king himself was director, Kand-

Fig. 292.—Meissen Porcelain. Blue Festoon, Pink Rosette. 1709–1726. (F. Robinson Coll.)

ler, a sculptor, introduced, as an ornamentation for vases, flower wreaths in relief, and afterward attempted figures with great success. From 1725 to 1745 Lindenir, or Linderer, was painting the beautiful insects and birds which were his specialty. Then came, also during Kandler's time, the exquisite paintings by European artists which brought the Chinese style effectually to a close. The brightest days of Meissen's history were those from 1731 to 1756, before Frederick the Great robbed it, for the enrichment of Berlin, of men, moulds, models, and clay. Peace came too late to restore Meissen to its pre-eminence, as it now had rivals both at home and abroad in France and England.

Fig. 293.—Dresden Porcelain.

The successive directors after Horoldt were the king, Augustus II., from 1731 to 1733; Count Brühl from 1733; the count's widow from 1763; the king, Augustus III., from 1778; Count Marcolini from 1796 to 1814; Bengrath Oppal from 1814 to 1833. The factory was, for the second time, plundered in 1759, and although it subsequently attained to a high position, it never reached its former prosperity. A marked change in style is noticeable during the last quarter of the eighteenth century. The forms and ornaments both assume more of a classical character. This style, borrowed most likely from France, was adopted by Marcolini, and entirely superseded its predecessors. The manufacture was now in its decline. Meissen had lost its prestige, and gradually sank in importance. From about fifty years ago the decoration became coarse and the works no longer paid expenses, and at the present time Dresden ware is a decidedly inferior fabrication. According to Jacquemart, the manufactory is busy counterfeiting its own old productions and its old marks. In comparing Dresden with its former self, its present position relative to other factories must not be lost sight of. It still gives

to commerce many works which are valuable either for their historical associations or for their intrinsic merit. The candelabrum here given (Fig. 297) represents a style of work once very much in vogue at Dresden. It was Kandler who, while superintending the modelling department under Augustus II., between 1731 and 1733, introduced the beautifully fashioned flowers in relief, of which some idea may be formed from our specimen. Another, and a very curious work, is still reproduced, and specimens can occasionally be picked up in this country. Reference is made to the figures "Count Brühl's Tailor" and "his Wife." The originals of these pieces were made by Kandler in 1760, under the count's directorate. With all his profligacy, Count Brühl was a good deal of a wit, and having been repeatedly requested by his tailor to accord him permission to look through the manufactory, at length consented. The tailor presented himself at the works in due time, and was there, to give him an appetite for farther exploration, presented with the two figures referred to. In one he saw himself astride of a he-goat, brandishing his professional shears and carrying the other appurtenances of his business on his back, while the goat carries his "goose" in its mouth. The other figure was that of his wife, with a baby in her arms, sitting upon a she-goat. The discomfited tailor saw no more of the porcelain manufactory. The many elegant forms and styles of Dresden are too numerous to be detailed. They embrace vases, candle-

Fig. 294.—Old Dresden Porcelain. (L. Double Coll.)

Fig. 295.—Early Meissen. (A. Belmont Coll.)

sticks, snuff-boxes, butterflies, flowers, clock-cases, and animal figures. The miniature paintings on some of the smaller pieces are exquisitely finished and wonderfully tinted.

The annals of the last century contain many curious stories of runaway workmen selling their secrets, and of the steps taken to keep down opposition and to acquire a knowledge of the manufacture by any means that offered. A runaway from Meissen led to the establishment at Vienna of a factory in 1720. After twenty years it rose to considerable eminence, although in both paste and glaze it is inferior to Dresden. Its raised gold decorations have brought it in modern times a certain celebrity. It came to an end during the directorate of Alexander Lowe, who was appointed in 1856. Some excellent specimens are in the collections of Mr. Walters, of Baltimore, and Mr. Gibson, of Philadelphia. From Vienna the secret spread to Höchst, whither it was conveyed by a workman named Ringler. · Ringler was in the habit of carrying with him written notes regarding the manufacture. His fellow-workmen at Höchst made him drunk, copied his notes, and offered the secret thus obtained for sale at other centres. One of these runaways founded the workshop of Fürstenburg. A few of the Fürstenburg workmen attempted to establish a manufactory at Neuhaus, but, on discovery, were sent out of Brunswick. Another Fürsten-

Fig. 296.—Dresden Cup and Saucer. Marcolini Period, 1796. (J. C. Runkle Coll.)

burger, a flower painter, tried to start the industry at Höxter, whither he had fled, but failed, and was followed in the endeavor by one of the defrauders of poor Ringler. This man's name was Becker, and he succeeded in Höxter, after fruitlessly hawking his secret through Belgium, Holland, and France. He was bought up by the offer of a pension, and his competition was thus brought to an end. When Ringler awoke to a full realization of the consequences of his folly at Höchst, he went to Frankenthal, Bavaria, where the factory founded by Hannong, of Strasburg, made porcelain in 1755. This existed down to 1800. In the mean time, however, Ringler had left, as we find him first at Neudeck-Nymphenburg, in Bavaria, and then, in 1758, founding a factory at Ludwigsburg, Würtemberg, which was worked until 1821. The porcelain made here was of excellent quality, and the figure pieces were admirably modelled. After this we hear no more of Ringler. In this way the industry spread over the whole of Central Europe — to Anspach, Baireuth, Baden, to Hesse-Cassel, Darmstadt, and Thuringia, each new workshop becoming the centre for a number of offshoots.

Fig. 297.—Recent Dresden Porcelain Candelabrum. (D. Collamore.)

Fig. 298.—Berlin Porcelain. (D. Collamore.)

Berlin obtained a knowledge of porcelain by the purchase of one of the copies of the indiscreet Ringler's notes, and the industry was founded in 1750. Let us bear in mind how Frederick carried off workmen, artists, tools, and material from Meissen, and it is not difficult to understand the rise of Berlin. The works were taken by the Crown in 1763,

and were very soon yielding a handsome income. Berlin has been compared with Dresden in its best days, and its works are certainly of a high order. The Berlin rose-color is peculiar to the royal factory. At the Centennial Exhibition the Königlich Preussische Porzellan-manufactur of Berlin was almost the sole representative of the porcelain industry of Germany. The majority of the pieces were of an ornamental character, large vases and plaques. A mere list of them will show in what the workmen are now busying themselves. There were a Victoria vase with a picture of Aurora, after Guido Reni; Germania vase with pictures of Germania cultivating the arts and sciences, and Prussia the shield and protectress of the empire, after Von Heyden; Crater vase with "Triumphal Procession of King Wine," after Schrödter; Crater vase with picture of Helios, after Schinkel; vases in Neogrec style with paintings after Bendemann; Victoria vase with "Music," after Klöber; Urbino vases, amphora vases, and several sets in the Persian, Chinese, and Japanese styles. All these pieces were of large size, the largest about six feet in height. Besides these there were candelabra, pictures on china enamel, table services, busts, and some beautiful specimens in biscuit. The collection probably represented very fairly the extent of the art practised at Berlin, and the best work of the Germany of to-day. In every case there were to be found great richness and admirable handling of colors, but it requires time to become accustomed to the German styles of drawing. Many of the figures painted on the surface, even those showing the utmost delicacy of tint, were hardly entitled to be described as graceful. Others were absolutely clumsy.

Fig. 299.—Berlin Porcelain Vase. (A. Belmont Coll.)

The vase from Mr. August Belmont's collection (Fig. 299) is in both form and color a good example of the art workmanship of Berlin. The ground color is a soft and beautiful shade of green; and the handles, base, neck, and frame of the medallion are in gold. The portrait in the latter is that of the Queen of Prussia, the mother of William, the present Emperor of Germany, and is said to be a very correct likeness.

HOLLAND.

The first natural porcelain factory in Holland was founded in 1764, at Weesp, near the capital. It was closed in 1771. In the following year the business was recommenced at Loosdrecht, near Utrecht, and was carried on there, and after 1782 at Amstel, with moderate success until the beginning of the present century. Several other establishments, notably one in 1778 at the Hague, rose, and in a few years fell. The entire history of porcelain in the country may be comprised in twenty-five years, from 1760 to 1785.

In Belgium there was, in 1791, a factory of natural paste at Brussels.

SWITZERLAND.

Switzerland owed its first workshop at Zürich to one of Ringler's workmen from Höchst. It was carried on for five years, until 1768, and the productions are after the German style. Imitations of the French style of Sèvres came for a time from Nyon, where a Frenchman established a workshop.

CHAPTER VII.

RUSSIA, DENMARK, AND SCANDINAVIA.

Scandinavian Pottery allied to Teutonic. — Hand-shaped Vessels. — Primitive Kiln. — The Eighteenth Century.—St. Petersburg: Its Porcelain.—Moscow.—Rorstrand.—Marieberg. —Modern Swedish Faience.—Denmark.—Kiel.—Copenhagen.—Imitations of Greek.— Copenhagen Porcelain.

THE prehistoric pottery of the Scandinavians is, in its general character, allied to the Teutonic. It is curious to find Brongniart describing methods of shaping vessels by hand and burning them in a hole, with hay for fuel, as being still practised in Scandinavia, which it is quite probable have been transmitted from generation to generation for untold centuries. A dark-gray, calcareous, coarse paste and herring-bone decoration are met with in the vessels of the Stone Age. Others apparently of the same age were thrown on the wheel. The hut-shaped urn also occurs, and rare specimens are surmounted by a cover.

Fig. 300.—Russian Faience. (D. Collamore.)

From these ancient times we may descend at once to the eighteenth century. In 1700 Peter the Great established some Delft potters at St. Petersburg, and a private workshop is mentioned as existing at Revel, but little is known of either. Peter the Great was also desirous of founding the porcelain industry within his dominions, but does not appear to have made any farther progress than bringing together a collection of Chinese porcelain with Russian decoration. In 1756 Elizabeth established a workshop near the capital, and some years later it was enlarged by Catherine II. About sixty years ago a

number of Sèvres artists were imported, and from that time down to the present a very superior natural porcelain has been made. In 1756 an establishment, also for making natural porcelain, was founded near Moscow. The royal works made no contribution to the Centennial Exhibition, but some porcelain was exhibited of fine translucent paste and most extravagant price. Single cups and saucers, of fine body, but not characterized either by remarkable elegance of shape or beauty of decoration, were offered for $20. Some small plaques of majolica were also exhibited, of careful workmanship and tasteful ornamentation. The St. Petersburg porcelain made at the royal works is so high in price that it is said to be bought only for the Court. The Russian faience (Fig. 300) of the present time is decorated in styles altogether peculiar. It illustrates the ardent desire manifested for some years past throughout Russia to rear a distinctively Muscovite school of art. Natural porcelain has been made at Korzec, in Poland, since 1723.

Fig. 301.—Swedish Faience Stove. (Wm. Astor Coll.)

The first Swedish faience factory was established

at Rorstrand in 1727, and is still running; and in 1750 a second enterprise was set on foot at Marieberg, also in the neighborhood of Stockholm. The earlier Rorstrand wares resemble those of Delft. The decorations are in some cases delicate and well designed. More lately Sweden has produced a great variety of very beautiful faience. At the Centennial Exhibition we had an opportunity of making acquaintance with the Stockholm potters through works not less surprising than artistic. The imitations of Palissy's *Rustiques figulines* may be passed over. The most interesting pieces were of what was called "black northern faience," the paste of which is a skilfully manipulated fine dark-brown clay. Many of the tea-sets and vases might easily have been mistaken for porcelain. A peculiar and very effective ornamentation consisted of blue, gilt, red, and white floral designs, the white enamel having a charming pearly appearance, and the blue studs resembling turquoises. One of the best specimens of this faience was a fireplace (Fig. 301) elaborately decorated with pale-blue and green, of delicate shades mingled with gilt. In both design and color this work was of itself sufficient to establish the character of Swedish ceramic art. It was accompanied by a pair of gigantic candelabra (Fig. 302) of a similar style. A quaintly formed vase was surrounded by medallions illustrative of the life of the old Vikings, from the time when the boy played with his father's sword to that when the war-worn hero was laid in his grave. The design was excellent in conception and execution.

Fig. 302. — Swedish Faience Candelabrum. (Wm. Astor Coll.)

It is not improbable that the Swedish works may be involved in some such confusion as that which surrounded the early wares of Delft. Thus we find, in 1729, Rorstrand invested with the monopoly of making porcelain of delft, *i. e.*, faience. In 1735 the privilege in-

cluded *fayence fine et pate dure*, and in 1759 Dr. Ehrenrich was privileged to make porcelain and faience at Marieberg. Some of the Marieberg wares are in excellent taste, showing exquisitely modelled flowers and fruit in relief. It is singular that when, in 1780, the stock at Marieberg was sold off, some of it was disposed of in London under the name of delft. The works at Rorstrand closed in 1788. A kind of faience having a resemblance to the Swedish is manufactured near Christiania, in Norway (Fig. 303). It is made into table services, and the decoration partakes largely of the classical character so widely prevalent in the North.

Fig. 303.—Norwegian Faience, Schwarzenhorn. (W. B. Dickerman Coll.)

Denmark was first known by the productions of Kiel, of which the thin paste is carefully prepared, and the paintings are highly commendable. The Greek imitations by Madame Ipsen, of Copenhagen, have been an agreeable surprise to Americans. Greek vases are imitated at this establishment with equal fidelity and beauty. The world appears never to tire of these forms, and the amateurs of America are to-day busily engaged in attempting to follow the potters of Denmark, England, Brazil, and we know not of what other countries. The widow Ipsen's works are certainly well executed; and standing among them at the Centennial Exhibition, it was hard to realize that

one was under the flag of Denmark. There were many there which we might have addressed, with Keats:

> "What leaf-fringed legend haunts about your shape
> Of deities or mortals, or of both,
> In Tempe or the vales of Arcady?
> What men or gods are these?"

Both form and ornamentation were as purely Greek as those of any pottery unearthed by the antiquary. The biga, quadriga, scenes from the Iliad and mythology, appear just as they do on the works of the master potters of antiquity.

Fig. 304.—Ipsen Terra-cotta. (Ovington Bros. Coll.)

What has been said of the Ipsen factory might be applied with equal truth to the terra-cotta works of Wendrich & Sons, also of Copenhagen. Greek vessels of every description, and illustrating both ancient Greek and modern Danish styles of decoration, bear their name, and can be fully studied in such a collection as that of Mr. T. Schmidt, at the Danish Consulate, New York. The Danish imitators, in rivalling each other, have left most, if not all, of their competitors far behind, and the fact leads us to consider at greater length the circumstances which led a people apparently so distantly removed from the Greeks in genius, to follow them in this particular branch of art.

First among these was the weighty influence everywhere felt of the greatest of Danish artists, the sculptor Thorvaldsen. In him we have an instance of a single man turning, in a measure, the current of thought of an entire people. The titles of his works show the subjects which touch his artistic sympathy. Instead of the Scandinavian Odin, Thor, Baldur, Sigurd, Freia, Brunhild, or Gudrun, we have Apollo, Mercury, Venus, Hebe, Ganymede, and the heroes of the Iliad. Thorvaldsen was fascinated by the classic art of Greece, and it obliterated

from his memory the mythology and legends of the North. While he gave us Hebe, it was reserved for his pupil and successor, Bissen, to give us the more truly national Valkyrie.

Fig. 305.—Ipsen Terra-cotta Lekythos. (Ovington Bros. Coll.)

A second reason may have been the possession of a fine pale-buff clay admirably adapted for imitating the antiques of Greece. "In texture," says Boutell, "it is so fine that it is capable of producing bas-relief medallions not larger than cameo gems, in which the figures have the sharpness of the gems themselves, with a surface of exquisite and silk-like softness." On the one hand was the material, on the other the Thorvaldsen museum presenting "the noblest models for using it with the happiest effect." The way to antiquity having thus been opened up, the Danish potters widened the range of their art, and found in Etruria and Egypt abundant models for imitation. Our classification must be of the most general character. Forms are reproduced with the most perfect fidelity, and the natural color of the buff clay changes through tints of warm brown and red to black, according to the original. The ornamentation is exceedingly varied. On some of the vases are subjects, taken from the pottery of Greece, painted in red upon a black ground, or in black upon buff, as we find them in Greece.

Fig. 306.—Danish Terra-cotta. (Ovington Bros. Coll.)

These comprise the first class, and are in the strictest sense reproductions of the antique. In others, while the accessory decoration is Greek, the subjects are taken from the sculptures or bas-reliefs of Thorvaldsen or Flaxman. The "Triumph of Neptune" of the latter, and the many works of the former, being purely classical

in conception and feeling, are in perfect harmony with the motive animating the artists of Denmark. There is a third class, in which the leading designs are essentially modern, and no strict rule is followed in accessory decoration. Thus, an amphora after the Greek, in form and accessories, has a central design taken from Thorvaldsen's bas-relief "Autumn." Egyptian amphoræ and other black-glazed vases are painted with naturally tinted bouquets of flowers, and thus in form and ground-color alone suggest the antique. At times the several styles are mingled. The colors most extensively used are red of several shades, gold, blue, white, buff, and black.

Fig. 307.—Wendrich Terra-cotta. (T. Schmidt Coll.)

Leaving the southern antique, the Danish potters have also reproduced the prehistoric vessels of their native land in several simple and elegant forms. The originals were found in the tombs of the ancient Danes, and supply their descendants with an opportunity of perpetuating an art essentially Norse. The national side of Danish art is also seen in many of the terra-cotta statuettes and medallions. We pass over the copies of Thorvaldsen's classical sculptures in order to reach the comical figures, full of humor, character, and feeling, of the elfish Nisser of the old Norsemen. The statuettes of these elves, and many quaint little figures of peasants, fishermen, and the like, are very attractive, both intrinsically and as reflections of Danish old-time superstition and Danish life. One of the Nisser appears upon the top of a flower-stand, and we meet with them again in the paintings upon porcelain.

A warm, satisfying quietude and an elevation of tone pervade these works in terra-cotta, which, added to their artistic merits, commend them to the student of household decoration, and insure a welcome from all who can appreciate their mingled softness and chaste dignity.

Taking Danish porcelain as a whole, it is both of good quality and tastefully decorated. The paste is pure, fine in texture, and carefully worked. In thin pieces, which approach very nearly the egg-shell of the East, the body is extremely translucent, and the glaze is smooth, hard, and even. This quality comes in fluted services, decorated under the glaze with delicate patterns, generally floral, in blue camaïeu. In thicker pieces greater strength is gained without any sacrifice of quality. Styles of decoration more peculiarly European occur in great variety, and illustrate the Danish artist's capacity for handling the richer colors of the porcelain painter's palette. Flowers, birds, insects, and landscapes are seen in medallions edged with gold; and cupids or Nisser, as grotesque as those in terra-cotta, are represented in every conceivable attitude. The flower pieces are drawn with feeling, and the coloring follows that of nature as closely as the medium will allow. In the figure pieces the attitudes are, as a rule, expressive, and suggestive of life and motion. Many of Thorvaldsen's works, and some of those of Bissen and Jerichau, have been reproduced in biscuit statuettes and bas-relief medallions. While lacking the warmth of terra-cotta, the porcelain biscuit is sharp in outline and soft in color.

Fig. 308. — Copenhagen Porcelain. White, Shaded with Blue. (Mrs. John V. L. Pruyn Coll.)

Porcelain was made at Copenhagen (Fig. 308) in 1760, where a Frenchman named Fournier established a workshop. In 1772 another establishment was founded, or that of Fournier was revived, by the Minister of Justice, Muller, assisted by a fugitive from Fürstenburg, named Von Lang. In 1775 it was taken into the hands of the Government, and is now called the Royal Porcelain Works. Many ornamental pieces and works in biscuit are issued of different degrees of merit.

CHAPTER VIII.

GREAT BRITAIN AND IRELAND.

Continuity of History.—Early British Urns.—Scottish Relics.—Irish Urns.—Roman Conquest.—Caistor Ware.—Anglo-Roman Ware.—Saxon Period.—After the Norman Conquest.—Tiles.—Dutch Potteries in England.—English Delft.—Stone-ware.—Sandwich.—Staffordshire Potteries.—Early Products.—The Tofts.—Salt Glaze.—Broadwell and the Elers Family.—Use of Calcined Flint.—Wedgwood.—His Life.—Jasper Ware.—Queen's Ware.—The Portland Vase.—Basaltes.—Wedgwood's Removal to Etruria.—His Death.—Minton & Co.—Their Imitations of the Oriental.—Pate Changeante.—Pate-sur-Pate.—Cloisonné Enamel on Porcelain.—Other Reproductions.—Their Majolica.—Their Artists.—Minton, Hollins & Co.—Lambeth.—Doulton Ware.—Terra-cotta and Stone-ware.—George Tinworth.—Fulham.—Bristol.—Leeds.—Liverpool.—Lowestoft.—Yarmouth.—Nottingham.—Shropshire.—Yorkshire.

The ceramic history of the British Isles is invested with a peculiar interest by reason of its nearly perfect continuity from the early Celtic works to the Romano-British wares, the early Saxon, the Norman mediæval imitations of Saracenic tiling, the lead-glazed wares of the sixteenth century, the stone-ware of the same period, the pottery of Staffordshire and Wedgwood, the first appearance of English porcelain, and so on, downward, to the works of Minton, Doulton, and others at the present time. In no other country do we find material for an equally lucid illustration of the regular advance of the art from the primitive and rude to the elaborate, beautiful, and skilful. England supplies us with a wonderful and in every way admirable picture of the efficacy of persistent skilled endeavor in contending with technical difficulty.

From the old tumuli, or barrows, have been exhumed urns in which were held the cinerary remains of the dead (Fig. 309). The differences existing among them are such, in regard to both composition, shape, and ornament, that they evidently belong to different periods and to different branches or tribes of the early British population. They have been found all over England, from the Channel

Islands to Northumberland. They are sun-dried and hand-made, and have wide orifices, often expanding gradually from a comparatively narrow base to the lip. They are pale in color, either yellow or gray, and the ornamentation consists of zigzags, frets, and studs.

In Scotland the general character of the remains is the same as that of the English. The appearance of a number of them suggests, however, the use of the wheel. They have been exhumed in every part of Scotland, from the Tweed to the Orkney Islands.

Fig. 309.—Group of Ancient British Vases.

The Irish urns are somewhat in advance of those found in England and Scotland. The red paste shows that considerable care was bestowed upon its preparation, and the entire body is very often covered with ornaments of lines and zigzags. As in the case of the English and Scotch, we are indebted for the preservation of these relics of the Irish Celts to a usage which our researches have shown to be almost universal, that of employing urns in connection with the interment of the dead. Cremation was not resorted to in every instance. The Celts put the ashes in the urns, or covered them by

inverting the urns over the spot where the ashes were laid, or placed their sepulchral vases round the unburnt remains.

Fig. 310.—Celtic Urn.

In the first century before Christ the tide of Roman conquest passed the white cliffs of Albion, and a new element was introduced into its ceramics. There, as elsewhere, the Romans made and imported the ware, of which examples have been brought to light all over the old Roman Empire, from England to Jerusalem. The extent to which the manufacture was carried in England may be estimated from one fact stated by Dr. Birch, that the Roman potteries have been traced for twenty miles along the gravel banks of the Nen, in Northamptonshire. Caistor, in the same county, is an exceptionally interesting locality, as both early Celtic wares and the remains of a Roman kiln have been found there. Under the Romans it must have been an important seat of the manufacture, as its productions have been unearthed at several places on the Continent—in France and the Low Countries. The Caistor ware is very often ornamented with unusual skill and taste by means of reliefs. The Roman Samian ware is found in many sections of England, whither it was probably imported. Some of the specimens belonging to the latter part of the Roman period, and to be classed as Anglo-Roman, are of a thin black paste, carefully wrought and totally devoid of ornament. After the arrival of the Saxons the pottery was more closely allied to the Teutonic found in Germany (Fig. 314).

Fig. 311.—Celtic Pottery, found in Staffordshire.

The urns are black, hand-made, and stamped with a variety of

decorative designs. The shapes are heavy, and the appliances for firing were apparently of a rude kind. Of the Anglo-Saxon period few relics have been discovered, and little is in consequence known. One fragment of the eleventh century, or possibly earlier, is described by Mr. Marryat as "of a yellow color, coarsely made and unglazed." It seems probable that the disturbances attendant upon the Norman invasion in 1066 distracted the popular attention from the plastic art, as the next evidences of its pursuit belong chiefly to the thirteenth century. These are the tiles employed in paving the ecclesiastical edifices of the day. In the greater number the patterns are inlaid, or filled in with white paste, and the whole then glazed yellow. To this class belong the thirteenth century tiles from Chertsey Abbey, in Surrey, and those of the fourteenth and fifteenth centuries from Malmesbury Abbey and Malvern. Those from Chertsey are peculiarly elaborate. One has a scene representing a king and a female harper, surrounded by a circular border, the whole forming the inside of a square richly ornamented in the corners and

Fig. 312.—Romano-British Ware.

Fig. 313.—Romano-British Upchurch Ware.

on the sides. The Malvern tiles are also very elaborately decorated with designs of an apparently heraldic character. Another style of tile decoration, followed from the thirteenth to the eighteenth century, consisted of mouldings in relief. The glaze is green or brown.

In others the patterns are incised, but not filled in. A very good example of this style is to be seen in Crauden's chapel at Ely. The fourth style of decoration was upon the *pate-sur-pate* principle —a white paste being employed as a pigment upon the body of the tile, after which the piece was glazed. The introduction of tiling for pavements and walls was evidently in a great measure due to English intercourse with Spain and the East. Toward the close of the eleventh century, while England had not yet recovered from the first shock of the Norman invasion, Peter the Hermit was carrying from land to land the anti-Saracenic Gospel of the Sword, which led to the First Crusade. Fifty years later, in 1147, the Second Crusade was organized, while England was still groaning under the oppression of her rulers. In the first quarter of the twelfth century the Saxon chronicler says: "God sees the wretched people most unjustly

Fig. 314.—Saxon Vase.

Fig. 315.—Anglo-Norman Vases.

oppressed: first they are despoiled of their possessions, then butchered." Under Stephen, "Men said openly that Christ and his saints were asleep." Clearly this was no time either for joining in crusades or cultivating art. When, in 1189, the Third Crusade was arranged, Richard the Lion-hearted was one of the three sovereigns who joined in the ineffectual enterprise. With his followers may have been brought back the incentives to art cultivation which make their effects apparent in the next century. The government was, in the mean time, taking the form which it assumed before the end of the thirteenth century, and which it has retained ever since. Political and art history here run exactly parallel. Given disorder and despairing apathy, and art is unknown. But let order take the place of chaos, and constitutional rule that of despotism, and the discarded arts again blossom into flower. Eastern influences manifested themselves in England almost contemporaneously with the revival of the ceramic art. On one specimen from Ely, a scriptural subject—Eve offering the apple to Adam, while a human-headed serpent coils itself round the tree—is surrounded by several designs of clearly Saracenic or Moorish inspiration.

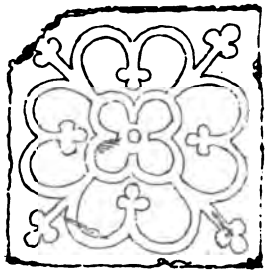


Fig. 316.—Old Tile from Salisbury. (Boston Household Art Rooms.)

Fig. 317.—Old Tile from Milton Abbey. (Boston Household Art Rooms.)

For at least four centuries tiles formed the staple production of the potters of England. The annals indicate a popular indifference to the domestic use of earthen-ware, which contrasts strongly with more southern preferences. In the reign of Edward I. a chance cargo from Spain, containing some plates and other household table-wares, reached England, but failed to affect the national use of wooden trenchers, leathern jugs, and metal. Lead-glazed pottery was, however, made as early as the fourteenth century, though

Fig. 318.—Old Tile from Chester. (Boston Household Art Rooms.)

not to a great extent. The specimens which have been preserved are generally coarse in texture, and are covered with green or yellow glaze. A ewer of the thirteenth or fourteenth century is rudely designed to represent a mounted knight. Other examples of the same period are jugs, of which some are inartistically formed, while others are not devoid of a certain gracefulness of shape. Costrels, or costrils (elongated bottles which answered the purpose of the modern flask), occur of a red paste with red and white glaze. A candlestick with white studs for ornaments has been found of the same red color.

As we pass to the later works of English potters, we become conscious of the difficulty of following our usual plan of dividing them into pottery, stone-ware with vitrified fracture, and porcelain. The treatment of the name of Wedgwood alone would make such an arrangement undesirable, as tending to break the continuity of our narrative. Stone-ware and earthen-ware will therefore be considered together.

The making of both enamelled pottery and stone-ware appears to have been an imported industry. Dutch potters are said to have settled at both Lambeth and Fulham in the seventeenth century, and to have there originated the manufacture of what was called "Delft," after the name of the seat of the industry in Holland. White wine-pots of this ware date from about the middle of the seventeenth century. Plates, oval and round dishes, mugs and cups, of the same ware appear in various collections, some with figures in relief, others with paintings in brown, blue, yellow, and green, and others with medallions or mottoes. They generally date from between 1650 and 1690. Delft was also made in Liverpool and in Staffordshire.

The first mention of stone-ware occurs in 1581, in the petition of a certain William Simpson, for "full power and onlie licence to provyde, transport, and bring into this realm, drinking stone pottes" made at Cologne and transported into England by a dealer living in Aix-la-Chapelle. As a reason why his prayer should be granted, Simpson stated that he would, "as much as in him lieth, drawe the making of such like pottes into some decayed town within this realm, whereby many hundred poore men may be sett a work." Whether he found some decayed town suitable for the carrying out of his philanthropic intent does not appear; but in 1588 a Delft potter was

carrying on his business at Sandwich. Lambeth, Fulham, and the Staffordshire potteries appear among the later producers of stone-ware.

The leading English centres are the Staffordshire Potteries, including Tunstall, Burslem, Hanley, the Fentons, and other towns comprising Stoke-upon-Trent, Lambeth, Fulham, Liverpool, Leeds, Lowestoft, Bristol, Yarmouth, and Nottingham. Of these the place of honor must be accorded to Staffordshire. It has been associated with the ceramic art ever since the Roman invasion; and the name of a family in the district (Tellwright) is adduced as a proof that under the Saxons the advantages of the locality for the making of pottery were fully recognized. The name is a corruption of tile-wright, or potter. Many interesting facts relating to English pottery in general, and to that of Staffordshire in particular, are brought together by Mr. Marryat, whose able work deserves the study of all desirous of following the gradual development of the art in England. Early specimens of Staffordshire ware are the butter-pots of the period, and the tall vessels (Fig. 320) called "Tygs." About 1650, Thomas and Ralph Toft and Thomas Sans were making round dishes with some pretensions to an ornamental character. The year 1680 was made memorable by the discovery of salt glaze. The story goes

Fig. 319.—Posset-pot. Staffordshire. Fifteenth Century. (Bateman Coll.)

Fig. 320.—Staffordshire Tyg, or Drinking-cup.

that a servant of Mr. Joseph Yates, occupant of Stanley Farm, near Palmer's Pottery, Bagnall, was boiling salt in water preparatory to using it in curing pork. An earthen pot was used as a pan, and the servant having left it for a time, the water boiled over, and would also appear to have all boiled away, since the pan became red hot. When it cooled it was found to be covered with what was afterward known as salt glaze. The hint was quickly taken by the potters in the neighborhood, and the process soon became common. The Burslem makers adopted it in 1690, and called the salt-glazed ware "Crouch-ware." Five years earlier, Mr. Thomas Miles was making stone-ware at Shelton, and the district production from about that time increased very rapidly.

Fig. 321.—Teapot. Elers Ware.

At Bradwell, in 1690, the Elers brothers, from Nuremberg, who had crossed with the Prince of Orange, set up one of the first establishments worked upon a regular mercantile basis. It had been for some time the object of both native and Dutch potters to imitate the red ware of China, and the Elers were the first to reach approximate success. Having discovered a bed of red clay, they set about working it in conjunction with gray stone-ware, with which they produced very fine reliefs (Fig. 321). Notwithstanding the strictest watchfulness, and the employment of semi-idiotic workmen, their secret was stolen by one Ast-

Fig. 322.—Medallion of Wedgwood, by Flaxman. On Monument in Stoke Parish Church.

bury, who for several years feigned idiocy in order to be allowed to work in their place, and in that way secure possession of their methods. The competition then became so great in their neighborhood that in twenty years they closed their establishment. Their reliefs were remarkably sharp in outline, and the paste was of fine quality.

It is curious to find that to another accident the Staffordshire potters were indebted for the discovery of the value of calcined flint mixed in the paste. A son of the above named Astbury was riding through Dunstable in 1720, when he noticed symptoms of disorder in his horse's eyes. The hostler at the inn where he stopped undertook to cure the animal by burning some flint and blowing the powder thus produced into the horse's eyes. Astbury saw the dust, and it at once occurred to him that it might be useful in his business. From calcined flint, sand, and pipe-clay colored by means of oxides, were made the wares called "Agate" and "Tortoise-shell." Then followed the adoption of plaster of Paris moulds and a more general resort to mouldings in bas-relief.

Fig. 323. — Cameo Medallion, by Flaxman. Mrs. Siddons as Lady Macbeth.

We now approach the era made illustrious by the name of Mr. Josiah Wedgwood (Fig. 322), the greatest of English potters, of whom it has been said, in the most unqualified terms: "With him the ceramic art received its highest development in ancient or modern times; for while greater beauty of decoration in painting characterized other wares, he produced the noblest artistic results of the mould-

ing in clay." However much others may be led by individual preference to qualify this encomium, there is no doubt that Wedgwood ranks among the highest names known in the history of English ceramic art. Born at Burslem, in Staffordshire, in 1730, of a family which had been engaged in the making of pottery for many years, Josiah enjoyed in early life none of the educational advantages which might have developed in him the promise of his future brilliant career. It is highly probable that his schooling did not carry him farther than reading and writing, and at the age of eleven we find him engaged as a thrower in his brother's workshop. Then came sickness in the worst of all its forms, smallpox, which left him so lame that amputation of one leg became necessary, and ended his career at the wheel. It is possible that, in current phraseology, this misfortune may have been a blessing in disguise. He at once turned his attention to the production of ornamental pottery and the imitation of precious stones, mixing variously compounded clays with oxides, and otherwise experimenting.

Fig. 324.—Black Basaltes. (Meyer Coll.)

The idea must have got abroad that he had talent, as, at the age of twenty-two, we find him in partnership with a Mr. Harrison, and then, in 1754, with Mr. Thomas Wheildon, of Fenton. This gentleman lacked his partner's enterprise, and in 1759 Wedgwood was in business for himself, at Burslem, at first in a small way, then in a larger, and again in a still larger manufactory. In the last he made

the ware called "Queen's-ware" —a cream-colored fabric of very delicate color, composed of white clay mixed with flint, and brilliantly glazed. It derived its name from a specimen service having been accepted by Queen Charlotte. His fortune was now practically guaranteed, and his career an assured success. Court patronage made him the fashion in England, and we also find him engaged in an export business. Prosperity did not rob him of any of his early enterprise, but rather acted upon him as an incentive to farther and greater exertion. He continued studying, investigating, and experimenting, and with the assistance of his partner, Mr. Bentley, pushed his business in all directions. Several kinds of earthen-ware and stone-ware were produced by him (Fig. 326), and after effecting various improvements upon his table ware, he turned his attention to those imitations of the antique, and of cameos, intaglios, and seals, with which his name is indissolubly associated. With these are to be classed his fifty copies of the Barberini, or Portland vase (Fig. 327). The original is glass in two strata—dark blue and opaque white—and is an example of Roman work of the second or third century. It was bought by the Duke of Portland for £1029.

Fig. 325.—Black and White Jasper. (Barlow Coll.)

Fig. 326.—Early Wedgwood. Blue; Moulded. (W. S. Ward Coll.)

These works admit of no classification. Some are earthen-ware, others stone-ware, and others are of such a composition that they may be most correctly classed with porcelain. The name "Basaltes" was given to a series of imitations of Egyptian styles in black biscuit, with reliefs in white and red (Figs. 324 and 325). More charming than these is the jasper or onyx ware from the blue or soft green ground of which the white busts (Fig. 328), figures, and flowers stand out in the most exquisite relief. The biscuit is a porcelaneous stone-ware, colored all through by means of oxides. Wedgwood made in all more than two thousand copies of antique gems.

Fig. 327.—The Barberini, or Portland Vase.

In 1771 Wedgwood removed from Burslem to Etruria, a village which he erected in proximity to his works, and for the accommodation of his workmen. There he also built for himself a handsome residence, which he occupied until his death, in 1795, in the sixty-fifth year of his age. His decorated cream-colored ware had, in the mean time, become known all over Europe, in India, and in this country. In 1775 he made a service for the Empress Catherine II. of Russia, undervalued at fifteen thousand dollars. We close our brief sketch of his remarkable career by noting that the success of the Etruria of his foundation was based upon commerce, and not upon royal patronage; that his humblest works are marked by a thoroughness and fitness parallel with the artistic qualities of his higher pieces; and that excellence of workmanship was in all cases his primary aim. One of his contemporaries and successors was Mr. Enoch Wood, who established a workshop at Burslem in 1770, and was succeeded by Messrs. Caldwell & Wood.

The later products of the Wedgwood factory are hardly less varied than those of its founder's lifetime. The jasper-ware is still produced, and although some of the pieces lack the exquisite finish of the original, others show little, if any, inferiority. The plate of blue jasper, with white decoration, given in the illustration (Fig. 330), is a remarkably fine example of recent work. The Wedgwood majolica is, both in regard to color and the modelling of the ornaments and figures, unsurpassed by any similar ware of the present time. Of this the vase (Fig. 331) is an excellent illustration. The body is a clear deep blue.

Fig. 328.—Wedgwood Jasper-ware. (John W. Britton Coll.)

In our time the Staffordshire Potteries maintain their old repute. One well-known name is that of Minton. It occurs in three firms, all located in the Potteries: Minton & Co.; Minton, Hollins & Co., of Stoke-upon-Trent; and Mr. Robert Minton Taylor, of Fenton. The establishment of Minton & Co. was founded while Wedgwood was still alive, by Mr. Thomas Minton, in 1791. The founder of the firm had been successively an employé of Mr. Thomas Turner, of Caughley, and of Spode, before, in 1788, he went to Stoke, and there bought land and built a house and factory. In 1790 he took Spode's manager, Mr. Joseph Paulson, into partnership, and in 1793 assumed a second partner, Mr. Pownall. The latter retired in 1800, and Paulson died in 1809, after which, for a number of

Fig. 329.—Recent Wedgwood Earthenware. (D. Collamore.)

years, Thomas Minton carried on the works alone. Previous to 1798 the factory made nothing but earthen-ware, the greater portion of which was decorated in blue and white, after the type supplied by the porcelain of Nankin.

Fig. 330.—Modern Wedgwood Jasper. (Tiffany & Co.)

In 1817 Herbert Minton, a younger son of Thomas, was taken in as partner by his father, and although he practically retired from the business between 1823 and 1836, he succeeded to it in the latter year on the death of the founder. He went into partnership first with Mr. John Boyle, who subsequently joined the Wedgwoods, and secondly with Michael Daintry Hollins. At the time of his death, in 1858, he had two partners, Hollins and Colin Minton Campbell. At that time fifteen hands were employed in the factory. Herbert had directed his attention to the wide range of works which have since given the name of Minton a world-wide reputation. These were earthen-ware, artificial porcelain, natural porcelain, parian, encaustic tiles, azulejos, mosaics, Della Robbia ware, Palissy ware, and majolica. The Mintons divide with Copeland the honor of first making parian. Both firms exhibited it at the London Exhibition of 1851, and the jury to which

the question of priority was referred could not decide between them. To continue the history of the firm, Colin Minton Campbell dissolved his partnership with Hollins in 1868, and now carries on the business in connection with his cousins, Thomas, William, and Herbert Minton, the great-grandsons of the founder.

The firm now ranks with the first of English manufacturers. Their enterprise has traversed a field as wide as that into which Wedgwood entered, and their success has been very great. In the pursuit of the commercial they have not neglected the artistic. It is said of Wedgwood that he copied and imitated everything worth imitating. Minton & Co. have followed a similar course, though in a different direction. Twenty-five years ago we find them attempting to make natural porcelain, but the enterprise was abandoned. When the taste for Oriental styles revived, they were among the first to succeed in gratifying the public whim. In doing so they produced specimens of color highly praiseworthy, and of a beauty vividly recalling that of the Oriental originals. Their Persian ware and *pate changeante* have both excited the admiration of connoisseurs. The Mintons have also been successful in reproducing with wonderful fidelity the *cloisonné* enamel of China and Japan, using a porcelain base. Here, as in the Persian ware, their turquoise blue is very effective, and the decoration in enamels reflects faithfully the tone of Oriental ornament. Leaving the East, Minton & Co. have been no less fortunate in imitating the Italian Grafitto ware of the fifteenth century, and the famous inlaid Henri Deux ware of France. Several specimens of the latter were exhibited by Messrs. A. B. Daniell & Son at the Centennial Exhibition, and included a teapot, a pitcher, and a pair of candlesticks, all of pale yel-

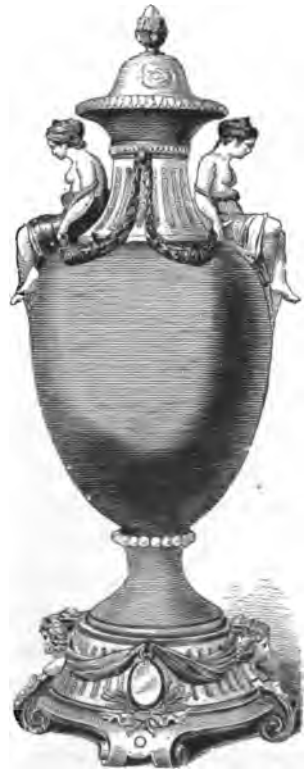


Fig. 831.—Wedgwood Majolica. (Horace Russell Coll.)

low body inlaid with red. Examples are in the Boston Museum of Fine Arts, and in the collections of Mr. Walters and Mr. W. L. Andrews. A mere reference must suffice for their majolica (Fig. 334), which is rather an independent product than an imitation of the majolica of Italy. It is peculiar both in composition and in the colors employed in its decoration, and is fired at a very high temperature. Mr. Herbert Minton was the first to copy the azulejos of Spain. The above are only a few of the achievements which might be adduced to show how Minton & Co. have boldly essayed to duplicate the choicest products of ceramic art. One is forcibly reminded by them of the Chinese workman's delight in contending with technical difficulty for the mere sake of surmounting it. Among their artists are Mr. Solon, W. S. Stevens, Charles Toft, H. Darling, J. Leese, M. Mussill, Kirby, Mellor Slater, F. Fuller, and H. Protat.

Fig. 332.—Minton Stone-ware. (D. Collamore.)

The firm of Minton, Hollins & Co., of Stoke-upon-Trent, was founded by Michael Daintry Hollins, on the dissolution of his partnership with Colin Minton Campbell in 1868. He built extensive works, and began to make majolica and encaustic tiles, slabs, panels, and other similar wares. The firm now produces an almost endless variety of tiles. At the Centennial Exhibition this firm was represented by some pieces of great brilliancy of color and very careful drawing. In one scene two finely plumaged wading-birds appeared among the water-lilies in a brook. The soft gray of the feathers tipped with bright blue, and the green of the reeds and other plants, were thrown out well by the dark-brown background. On some smaller pieces birds of tropically gay plumage were painted upon a sombre chocolate ground. On others were flowers and butterflies upon a pale ground. The style of treatment is purely Oriental. Drawing and color are

paramount. The ground is merely intended for contrast with, or the heightening of, the superimposed decoration. Some beautiful heads of dogs, lions, and asses were marvellous examples of animal portraiture, and illustrated the capacity of tiling for the reception of that style of decoration. In them was seen the work of an artist who fully understood that, given the requisite mastery of color, a tile may be employed as a more lasting substitute for canvas. It is also worth noting that whenever tiles are used for covering a large surface, and each one is treated as a unit, the result is an artistic blunder. The eye wearies with monotonous repetition, and no minuteness of finish in the

Fig. 333.—Minton Plaque, by Mussill. (Tiffany & Co.)

single tile can relieve the bewildering effect of the mass. Minton, Hollins & Co. have been fortunate in designing fire-places of tiling, with side paintings of birds and flowers, and larger scenes above the mantel, of a character in keeping with their place in a household.

From the Trent we pass to Lambeth, near London. It was here that in 1640 the Dutch makers of stone-ware and delft settled. At one time there were twenty different establishments, but on the rise of Staffordshire their number decreased under the weight of competition. Some of the early Lambeth ware is very skilfully painted, the tiles with a blue ground being especially commendable. At the present time Lambeth is best known by its Doulton ware and Lambeth faience. The Doulton or Lambeth pottery was founded by Mr. John Doulton, who was born at Lambeth in 1793. He served an apprenticeship with White of Fulham, and in 1815 associated Mr. John Watts with himself in establishing the present pottery. Mr. Watts died in 1858, and Mr. Doulton in 1873, and the business is now in the hands of Messrs. Henry and James D. Doulton, sons of the founder. In 1870 they first issued an artistic ware, and in 1872 turned out the first specimen of what they have called "Lambeth faience." The "Doulton ware" may, without detracting from the originality of much of the decoration, be described as a revival in both composition and style of the German stone-ware, miscalled *Grès de Flandre*. Like other stone-wares the body is highly silicious, close in texture, and very brittle. The necessary firing takes several days to accomplish, and the glaze is made by throwing salt into the kiln, according to the process discovered, as we have seen, in Staffordshire, and long practised at Lambeth. The body-tints are the result of washing the pieces in a preparation of oxides, varied according to the shade desired. The ornamentation is fourfold. It consists either of incrustations, indented

Fig. 334.—Minton's Promethens Vase. (Corcoran Art Gallery.)

designs, incised figures or scenes, or colors. These methods are occasionally combined. The Lambeth faience is a finer ware, and is decorated under the glaze with paintings of flowers, landscapes, portraits, and figures. The Messrs. Doultons' artists are all taken from the ranks of pupils in the Lambeth School of Art. Among them are Miss Hannah B. Barlow, a very skilful animal painter, Mr. Arthur Barlow, Mr. Frank A. Butler, Mrs. Sparkes, and Mr. George Tinworth.

Fig. 335.—Doulton Ware. (W. B. Dickerman Coll.)

A great deal of the Doulton ware very closely resembles the *Grès de Flandre* in its decoration, but even to these specimens is to be accorded the originality resulting from a modified development of the fundamental style. A larger experience may lead to something more perfectly original. The present tendency appears to be toward an excess of ornament, in some instances not a single square inch being left uncovered. Studs and bosses are affixed in bands, are led over the surface in floriated designs, and give the arched handles a peculiar serrated appearance. A very ingenious design consists of incised broad leaves overlapping each other, and becoming more sharply pointed and elongated as they rise up the neck to the lip. Studs are then laid in vertical bands from top to bottom, the lines converging as the leaves become smaller. In many cases, however, the reliefs destroy the outline, and mar the beauty of

Fig. 336.—Doulton Ware. (W. B. Dickerman Coll.)

a host of otherwise admirable shapes. In the matter of form, the Messrs. Doulton, in fact, leave little to be desired. Many of their vases display a pure, classical gracefulness, and others are possessed of a quaintness and novelty almost equally attractive. Canettes, goblets, and small covered jars decorated with plain or ornamental bands, and dotted with flower-like studs, are to be classed among the best examples of the more characteristic or distinctive style of Lambeth decoration.

The plaques and tiles of Lambeth faience deserve separate notice. Some of the smaller pieces illustrate the capacity of the ware for portraiture. The drawing is invariably careful, and the coloring is applied with both taste and delicacy. The colors will probably be improved in time, and become more decided without losing anything in softness. The pieces we have seen inspire us with this hope, and that here again experience may lead to greater excellence. A large tile-piece, by Mrs. Sparkes, representing the departure of the Pilgrim Fathers, and painted upon two hundred and fifty-two tiles of Lambeth faience, was exhibited at the Centennial Exhibition. The lady-artist is deserving of all praise for her composition and drawing. The perspective was very well managed, and the figures were brought out in strong relief against a sky glowing with the rays of the setting sun.

Fig. 337.—Lambeth Faience.

The Messrs. Doulton have achieved some wonderful results in the combination of terra-cotta with their stone-ware. At the Centennial Exhibition they had a brown terra-cotta fireplace and mirror-frame, with tiled panels and hearth and terra-cotta fender. In another mantel-piece, of oak, a set of tiles in the panels showed admirably designed and executed illustrations of scenes and characters from Shakspeare. In these and other similar works a great deal of taste and ingenuity was shown in the combination of material. A magnificent example

of the union of terra-cotta with Doulton ware is now in the Smithsonian Institute at Washington (Fig. 340). It is a pulpit of red and light buff terra-cotta with ornaments of blue stone-ware. The balusters on the stairs leading up to the pulpit are Doulton ware ornamented with bands of terra-cotta. Under the base of the balustrade, and round the pulpit under the panels in front and on the sides, are bands of Doulton ware. A similar band surrounds the alcoves or panels. The latter are by Mr. George Tinworth, of London, and illustrate scenes in the life of Christ, from the offering in the Temple of "a pair of turtle-doves or two young pigeons" to the ascension. Of this artist's execution, also, are the panels in a baptismal font which accompanies the pulpit. These and other similar works are so deeply sunk that they have the appearance of groups of figures separately modelled and placed in the recess rather than of mouldings in relief. They are in every way admirable. The expression and attitudes of some of the faces and figures are marvellously life-like and forcible.

Fig. 338.—Lambeth Faience. (D. Collamore.)

Fig. 339.—Lambeth Faience. (D. Collamore.)

Fulham owes the beginnings of its pottery to the Dutch. In 1684 Mr. John Dwight was making stone-ware, earthen-ware, statues, and porcelain. The latter was very soon discontinued. The production of other wares was carried on by descendants of the founder.

The history of Bristol pottery is said to go back to the commencement of the thirteenth century, but its first piece with a date is five hundred years later. It is delft-ware, and is dated 1703. A German, named Wrede, or Reed, is said to have made stone-ware about the same period. Otherwise Bristol is unimportant in so far as earthen-ware is concerned.

Leeds is one of the towns which, toward the close of the last century, were adopted as fields for a pottery enterprise. It did an extensive trade with the Continent in a cream-colored ware.

Liverpool begins its history, in 1716, with the manufacture of delft. The first event of any importance is the invention by Mr. John Sadler, in 1753, of a method of printing upon earthen-ware. Wedgwood was in the habit of sending Queen's-ware to Sadler to be

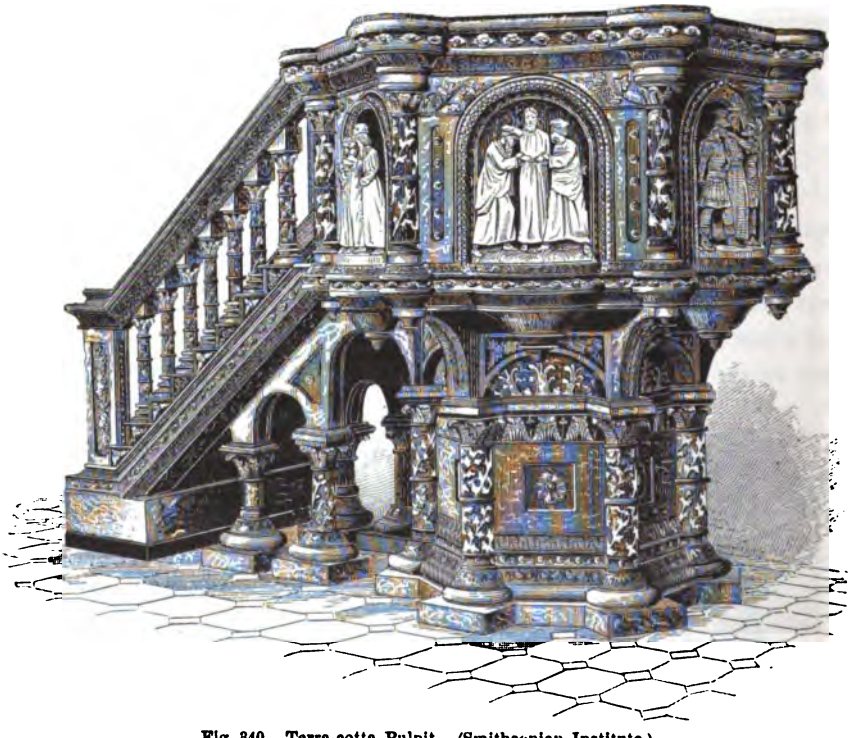


Fig. 340.—Terra-cotta Pulpit. (Smithsonian Institute.)

printed. In 1752 Mr. Richard Chaffers set up an earthen-ware establishment, but soon turned his attention to porcelain, which he succeeded in making after discovering the necessary material in Devonshire. On his death the enterprise came to an end. The next name of distinction is that of Pennington, who, about 1760, made delft bowls and vases, some of which were painted by an artist named Robinson. Pennington ultimately returned to Worcester. In 1794

the "Herculaneum Pottery" was opened at Birkenhead, and was worked until 1841.

Mr. Herolin Luson made an ineffectual attempt to establish a pottery at Lowestoft in 1756. His failure is to be attributed to the infidelity of his workmen, who were induced by the London manufacturers to spoil the ware. Notwithstanding the opposition which led competitors to resort to similarly unworthy devices, Walker, Brown, Aldred, and Rickman founded a workshop within a year of Luson's failure, and by taking the necessary precautions against treachery, placed it upon a permanent basis. It made ware of every grade. The Lowestoft earthen-ware was usually decorated with blue, and occasionally with red. The early porcelain was painted in the same colors, and the later pieces were ornamented with flowers. The latter are artistically drawn and colored, and equal the best work found on English porcelain. Plain Chinese ware was imported and decorated at Lowestoft; but the production ceased about the year 1830.

Fig. 341. — Lambeth Faience. (Dr. H. G. Piffard Coll.)

Fig. 342.—Lowestoft Pottery. (F. Robinson Coll.)

It is questionable if ware of any kind was ever made at Yarmouth, although it is certain that a decorating establishment and kiln existed there probably about 1752. It is more than possible that this workshop was in part supplied with Lowestoft biscuit.

Nottingham manufactured pottery from about 1650, and the business was continued for at least a century. The precise period at which it came to an end is not known.

The Shropshire factories were offshoots of those of Staffordshire. The Brosely establishment was founded by Mr. Richard Thursfield, of Stoke, in 1713, and passed from his family into the hands of the Roses of Cole-

brookdale about 1799. A black stone-ware decorated with gilt or with reliefs was the chief product.

Mr. Francis Place, of the Manor-house, York, made fine pottery or stone-ware in the latter part of the seventeenth century. The well-known "Rockingham ware" took its name from a brown pottery made upon the estate of the Marquis of Rockingham, at Swinton, in Yorkshire. The production originated in 1757, and the enterprise was subsequently carried on by Mr. William Malpass (1765); Mr. Thomas Bingley (1778); Messrs. John and William Bramfield (1807–1842), when the works stopped. The brown teapots of this factory were at one time very fashionable in England. Of these and other works each had its specialty of decoration or composition, but to detail them in full would only complicate a sketch in which it is intended to give merely salient points, on a comprehensive plan.

PORCELAIN.

Plymouth Hard Porcelain.—Cookworthy.—Bow.—Chelsea.—Derby.—Worcester.—Minton.—Pate-sur-Pate.—Spode.—Copeland.—Bristol.—Tunstall.—Caughley.—Nantgarrow.—Swansea.—Colebrookdale.—Pinxton.—Shelton.—Belleek.—General Character of Manufacture in Great Britain.

It may be as well to premise that the porcelain now made in England all belongs to the soft, or, according to our classification, the artificial class. Its composition has already been described. The leading seats of the industry are Bow, Chelsea, Derby, Plymouth, Bristol, Worcester, and a few workshops in the midland counties and Wales.

With the possible exceptions of Lowestoft and Bristol, Plymouth stands alone as the only place in England at which a manufactory of hard, or natural, porcelain ever existed (Fig. 343). This distinction is due to the enterprise of William Cookworthy, who was born near Plymouth, in 1705. Cookworthy was a chemist and druggist, and was led into his porcelain venture by the discovery of kaolin and petuntse near Helstone, in 1755. Five years later his manufactory was running at Coxside, but meeting with no adequate commercial support, he sold his patents, in 1772, to Richard Champion, of Bristol. The production then ceased. Cookworthy's first attempts were not en-

couraging, but perseverance brought a certain measure of success, and his later works are of fine quality. He procured a Sèvres painter, and also employed Bone, the enameller and artist, and by their help turned out many valuable services and pieces richly ornamented after the prevailing Oriental styles, with birds, flowers, and insects.

Fig. 343.—Plymouth Hard Porcelain Coffee-pot.

Before Cookworthy embarked in his porcelain enterprise at Plymouth, artificial porcelain was made at Stratford-le-Bow and Chelsea. The beginnings of the industry at neither place have ever been satisfactorily freed from obscurity, and it is not known to which the priority belongs. Thomas Frye, an Essex artist, superintended the works at Bow for some time, and is said to have been the first who succeeded in making English porcelain. He died in 1762. Probably the Bow and Chelsea works both started about twenty years before that date. It is certain that both stopped after less than fifty years' existence. The porcelain made at Stratford-le-Bow, and designated "Bow china," is of coarse paste, and is often found decorated with a bee either painted or embossed (Fig. 344). The painting of flowers and scenes is not of a high order, but the reliefs are frequently effective and well executed. The Bow artists also made figure groups.

Fig. 344.—Bow Cream-jug.

The decoration of early Chelsea porcelain closely followed the Chinese, which it was intended to rival. The business there did not attain

to any eminence, nor did the art rise to a noticeable height, until the works were patronized by the Court of George II. and supported by the Duke of Cumberland. Between 1750 and 1765, Chelsea porcelain most closely approached its great Continental rivals (Fig. 345). After 1750 the manufacture could hardly be called an English enterprise, since material and workmen were both imported from Germany. The management also was in the hands of a foreigner named Spremont. The articles produced included all the forms of Sèvres and Dresden, table services, candlesticks, figures, vases, and the numberless designs among which the inventive ingenuity of Continental artists was exercised. In 1784 the works stopped. The Chelsea paste was extremely soft, and the glaze was vitreous and liable to crack. The colors were superb, and included some of the choicest found on Sèvres porcelain, besides at least one other, a claret color, peculiar to Chelsea. Very high prices have been obtained for this porcelain at auctions, more than a thousand dollars having been given for a pair of vases. In design, workmanship, color, and decoration, there are pieces of Chelsea porcelain unexcelled by any other establishment, either English or foreign.

Fig. 345.—Chelsea Porcelain Vase.

Mr. Duesbury, who purchased the Chelsea works in 1769 and finally transferred them to Derby, had been making porcelain in the latter place since 1750.

Fig. 346.—Derby Porcelain. Third Duesbury Period. (F. Robinson Coll.)

He had also bought and transferred the Bow works, and carried on a most extensive business, taking the place in public estimation of the two establishments he had consolidated. The elder Duesbury died about the year 1788, and the subsequent proprietorship is not very clear. He appears, however, to have been succeeded by his son, who died in 1798, and the works then fell to the third Duesbury, who carried them on in conjunction with Michael Kean until they were acquired by Robert Bloor in 1815. Bloor kept them until he died in 1849, and then Locker & Co. held them until 1859, when they were assumed by Stephenson & Hancock, of which firm Mr. Hancock, the surviving partner, came into sole possession in 1866. The ware was called Chelsea-Derby from 1769 to 1773, when it received the name of Crown-Derby, a crown having been added to the mark after a visit of the king and queen. The Derby paste was very fine and

Fig. 347.—Bloor-Derby Porcelain. (F. Robinson Coll.)

Fig. 348.—Old Worcester Porcelain. (Robert Hoe, Jun., Coll.)

translucent, and in the production of biscuit figures it was unrivalled. The best of the old Derby colors was a beautiful bright blue.

The Worcester works were founded in 1751, by a company headed

by Dr. Wall. To this gentleman has been ascribed the invention of printing on porcelain, which we have already found in use on pottery in Liverpool in 1753. The matter is involved in doubt, as the process was in vogue at Battersea about the same period, and it is improbable that it was simultaneously invented at three different establishments so far apart. However this may be, Dr. Wall availed himself of the invention, and handled it with great skill and precision. Steatite obtained from Cornwall was first used by the company in 1770, and in 1783 the Messrs. Flight bought up the original establishment, which had found competitors in the Chamberlains, who had commenced business as decorators in 1786. In 1788 the works were visited by King George III., who became a patron of Flight, and were afterward called the Royal Worcester Porcelain Works. One of the Flights died in 1791, and a partnership was formed by the survivor with Martin Barr in 1793. The concern was carried on under the firm of Flight & Barr until 1807, when it became Barr, Flight & Barr, Jun., and in 1829 another change was made to Flight, Barr & Barr. It retained that form until 1840, when an amalgamation was effected with the Chamberlains. In 1862 a joint-stock company was formed, under which Mr. R. W. Binns, the author of a history of Worcester potting, acted as superintendent of the artistic department. It is estimated that at present upward of four hundred workmen are employed in the Worcester establishment, which is made all the more interesting by reason of its being one of the few survivors of the old

Fig. 349.—Worcester Porcelain. (G. Collamore.)

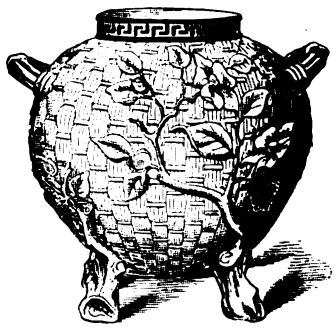


Fig. 350.—Worcester Porcelain. (D. Collamore.)

English works. Every effort is made to bring the porcelain to perfection, and the body and decoration are both very fine. The Worcester paste does not appear at first to have equalled that of some other English centres, but its yellowish tinge made it very well suited for the brilliant color demanded by the Oriental styles of decoration. The process of transfer printing is said to have been perfected by Josiah Holdship, who was assisted by his brother Richard in engraving the plates. Robert Hancock was also an engraver in the factory. Some rare specimens of transfer printing are found painted with colors and gold, by which means good imitations of Dresden were made. This success led to the adoption of the Dresden mark, a practice to which the Worcester manufacturers seem to have been too much addicted,

Fig. 351.—Worcester Porcelain. (D. Collamore.)

as the marks of several of the leading workshops are found upon their wares. At the present time the Worcester factory is turning out a great deal of excellent work. The table ware, of which an example is given (Fig. 351), is generally tastefully and often brilliantly decorated. The colors in the specimen given are yellow, red, blue, green, and gold, very judiciously combined, and have a warm and rich effect. The portrait plaque (Fig. 349) is by A. Handley, and is executed in flat colors. The flesh-tint is especially soft and refined. It is a highly satisfactory example of its class.

A work widely differing from either of the above is the basket vase (Fig. 350), with rustic handles and feet, and decorated with leafy branches in relief. The only color used is a pale shade of blue,

which deepens in the interstices of the wicker-work. These examples have been chosen not for any exceptional qualities, but for the purpose of illustrating the average products of a factory which ranks among the first in England.

Fig. 352.—Pate-sur-pate, by Solon. (H. C. Gibson Coll.)

The Mintons, although devoting themselves chiefly to stone-ware and earthen-ware, made porcelain at an early period of their history. This occurred in 1798, when a semi-translucent porcelain of inferior quality was made. The production ceased in 1811, and was taken up subsequently by Herbert Minton. Their *pate-sur-pate* has been noticed under France, but we here give a superb specimen of their decoration in that style by Mr. Solon (Fig. 352).

Another famous firm working at Stoke-upon-Trent is that of the Copelands. It was founded in 1780 by the first Josiah Spode, who established himself in the works which had been occupied by Banks & Turner. He appears to have been chiefly engaged in the manufacture of blue printed willow-ware, and imitations of the more famous works of Wedgwood, especially his cream and jasper wares. He died in 1797, and his son and namesake carried on the business, and first turned his attention to porcelain about the beginning of the present century. The body he used was of great purity, and the ware was chiefly decorated with gold and flowers after the fashion of his day. In this venture he was very successful, and devoted every energy to pushing his enterprise. In 1805 he achieved another triumph by what he described as "a sort of fine ware, called opaque porcelain," which was extensively consumed on the Continent, to the great detriment of the makers of French faience. In 1806 the honor was

conferred upon him of being appointed potter to the Prince of Wales, and in 1827 he died, after amassing a large fortune. The firm consisted for some time of Josiah Spode, William Spode, and William Copeland, and in 1833 the concern was bought by a son of the latter, William Taylor Copeland. He was joined by Mr. Garrett in 1843, and the firm consisted of Copeland and Garrett until 1847, when Mr. Copeland again became sole proprietor, and continued so until 1867, when he was joined by his sons. The works are now carried on under the firm of Copeland & Sons, and have attained to great dimensions, covering about twelve acres of ground, and giving employment to about nine hundred operatives.

Mr. Abraham, art director of the Copeland works, has furnished much of the above information, and of that which follows regarding the wares of both Spode and Copeland. According to Mr. Abraham, one of Spode's most celebrated wares was the stone china already referred to, an opaque or nearly opaque compact body of a blue-gray tint resembling Oriental china. It was fired at a much higher temperature than earthen-ware, and in reproducing it at the present time it is fired in the porcelain kiln. It was decorated by Spode in various ways, the qualities most highly prized being the "old Japans" and oven blues of different shades. Spode's stone china and ivory bodies are exceptionally well adapted for treatment in which oven blue is employed.

Fig. 353.—Copeland Vase. (Tiffany & Co.)

This stone china has never been entirely out of use, but for a long time it did not receive the attention it deserved, and has only been recently revived. When receiving least attention its manufacture was restricted to matching sets, the possessors of which were so

Fig. 354.—Copeland Parian.

sensible of its high qualities as a table ware, that they were desirous of making up deficiencies in their services whenever practicable. The name of Copeland is now well known wherever commerce has carried the ceramic wares of England. Some of the most artistically designed and finely decorated pieces found in the collections of the present time are from this workshop. The Copelands have rivalled the most prominent houses of England, we might say of Europe, both in the many-sidedness of their enterprise and in its results. The best artists and modellers are employed, and the products may be compared with any in Europe. What may be considered a specialty of the Copelands is the employment of royal blue upon porcelain, both in arbitrary designs and in landscape and figure painting. They have it so perfectly under control that the most delicate tints and the greatest depths of which the color is capable are produced at will, without the overflowing of the color on the one hand, or on the other the harshness and poverty of tone so common in works decorated in this blue.

Fig. 355.—Copeland Parian.

A great deal of the Copeland jewelled ware is exceedingly beautiful. We have chosen one specimen as being exceptional, both in its design and decoration (Fig. 353), and it would certainly be difficult to lavish upon it too much praise. The base is gilt, the body is of two shades of blue, and the gracefully expanding neck pale brown dotted with brown of a darker

tint. The handles consist of golden butterflies resplendent with jewels. The effect is rich, but harmonious and charming, and the piece may be regarded as one of the most favorable illustrations of what the English artists of our time can accomplish.

In approaching the Copeland parian (Figs. 354 and 355), we find ourselves among some of the finest works in that material yet given to the world. An enumeration of the artists regularly or specially engaged in this department would include many of the highest names in the profession. This branch of art has developed rapidly, partly on account of the rivalry between manufacturers, but chiefly by reason of the welcome everywhere extended to the works issued. Among the subjects chosen by the Copelands, many, possibly the greater number, are ideals—such personifications as those of Music and Poetry. It could not be expected that all these would be of equal merit, and fault may occasionally be found with attitudes and proportions; but they are, as a whole, admirably executed.

Fig. 356.—Copeland Reticulated Porcelain. (W. B. Dickerman Coll.)

Yet another branch of art in which the Copelands have been eminently successful is represented by the perforated or reticulated ware of which the Chinese supply the types. The potting difficulties and risk in making this double surface ware are greater or less according to the intricacy and delicacy of the perforations. In the cup and saucer here given (Fig. 356) the manipulation and firing were exceptionally delicate and hazardous, far more so than in

the case of the honey-comb perforation. Held up to the light, the inner surface appears to be as thin as egg-shell; and it seems a perfect marvel that, when the heat has softened the body, the upper surface does not sink down upon that below. Where plugs can be used to keep them apart, or where the perforated surface is strongly arched, or where the article can be placed upright, the danger is manifestly less than in such a piece as the saucer, with its pointed leaf-work bending downward rather than arching. It is also necessarily placed flat in the kiln. Many pieces of the same kind have been made by the Copelands.

We have already seen that Cookworthy sold his patent to Mr. R. Champion, of Bristol. It appears, however, that he retained an interest in it after Champion started his manufactory in that city until the year 1773, when he relinquished his right on payment of a royalty. The Bristol workshop was founded a few years previously, but no natural porcelain was put upon the market until that date. The fact that Champion was, in 1776, making artificial porcelain indicates that he very soon found his hard porcelain venture would not be remunerative. He was, according to one authority, associated with a company of Bristol gentlemen in his enterprise, and it appears to be certain that when he applied for the extension of his patent he did not stand alone. In 1781 or 1782 he resigned his right to a company of Staffordshire potters, and was appointed Paymaster of the Forces, under his friend Mr. Edmund Burke. He died in 1787, at Camden, South Carolina. The Bristol china is chiefly valuable by reason of its rarity. The decoration is after Continental and Chinese styles, and the paste is inferior.

The company which purchased Champion's patent continued to make natural paste until 1810, first at Tunstall and afterward at Shelton. It was called "New Hall china." Artificial porcelain was made until 1825.

When, in 1807, the Bramelds acquired the Swinton works, they conjoined the manufacture of Rockingham and fine pottery with porcelain of excellent quality. They endeavored to make a ware of the finest sort in both body and decoration, but fell into financial difficulties in 1826, and, although assisted by Earl Fitzwilliam, finally succumbed, as we have already seen, in 1842.

Caughley is the earliest and most important of the Shropshire porcelains. The workshop would be deserving of remembrance were it only for one reason—that it was here Mr. Thomas Turner originated, in 1780, the willow pattern. The manufacture of porcelain at Caughley was inaugurated soon after the middle of the eighteenth century. Turner took the management about 1780, although he had been interested in the works for some years previously. He effected great improvements, introduced printing, raised the quality of the ware, and engaged the most skilful decorators. He also made white ware for other decorating establishments, especially those of Worcester. The Caughley works were, in 1799, amalgamated with those of Colebrookdale.

A factory was founded at Nantgarrow in 1813, by Walker & Beely, or Billingsley, and was carried on, in conjunction with Mr. W. Young, until 1828, when it was bought by Mr. John Rose, of Colebrookdale.

The "Cambrian Pottery" of Swansea was founded in 1750, and began to make "opaque china" in 1790, and from 1814 to 1819 was making porcelain. Young and Billingsley, the Nantgarrow artists, both appear to have been employed at Swansea, by Mr. Dillwyn, who had bought the works in 1802. In 1820 they passed into the possession of Mr. Rose, of Colebrookdale.

At this place, or Coalport, as it is alternatively called, the Caughley, Nantgarrow, and Swansea factories were thus consolidated in the hands of Mr. John Rose, a pupil of Turner of Caughley, and a man of great enterprise. He took with him the best artists of the works successively absorbed, and it is here that we again meet Walker and Billingsley as superintendents. The present proprietor is Mr. W. F. Rose. The Messrs. Daniell, of London, are among the leading supporters of the factory, and have incited Mr. Rose to some of his most successful experiments in color. Of these the Dubarry rose, one of the most famous and beautiful colors of Sèvres, is probably the most important.

Billingsley worked first at Derby, then successively at Pinxton, Mansfield, Worcester, Nantgarrow, Swansea, and Coalport. He died at the last mentioned place in 1828.

The Pinxton factory here mentioned was established in 1795, by Mr. John Coke, who transferred it to Billingsley, from whom it passed to Mr. Cutts. It was closed in 1812.

Brief mention has already been made of Tunstall and Shelton. The latter place is less known in America, in connection with the working of the Champion patent, than by the names of Ridgway and Brown, Westhead, Moore & Co. (Fig. 357). Job Ridgway was a Shelton potter in the latter part of the last century, and was, in 1814, succeeded by his sons John and William, who were followed by the above firm. The porcelain of both firms is well known in this country. With Shelton, although there are or have been many other factories in England, we close our sketch of that country.

Fig. 357.—English Porcelain. Brown, Westhead, Moore & Co. (D. Collamore.)

A peculiar ware from Belleek, Lough Erne, Fermanagh County, Ireland, has made its appearance in America within the past ten years, and has been received with considerable favor both here and in Canada. It is carefully and artistically wrought into ornamental pieces and services. Its chief peculiarity is an iridescent glaze of a silvery, lustrous appearance. In the specimen (Fig. 358) the pedestal is unglazed, and its dead white contrasts admirably with the lustrous flowers, base, and top. The ware is obtained from a combination of clays found in the neighborhood from which it takes its name. It is a true porcelain and very translucent, and in thin lustred pieces rivals the egg-shell of the far East. It is equally beautiful in biscuit or glazed.

Fig. 358.—Belleek Porcelain. (Tiffany & Co.)

Several original designs appear among the table services of this ware, which are rendered very attractive by the peculiar glaze. Exceedingly beautiful imitations of shells (Fig. 359) are made of Belleek ware, a purpose for which it is especially suited by reason of the similarity the glazed surface presents to the inside pearly lining of a shell (Fig. 360). A ware somewhat similar in appearance is made in England and France, where an artificial metallic glaze is employed to produce the *madreperla* lustre.

Fig. 359.—Belleek Porcelain. (Tiffany & Co.)

The ceramics of England are of special interest to the American

Fig. 360.—Belleek Porcelain. (Tiffany & Co.)

reader. In many of our old homes are to be found samples of English pottery and porcelain brought to this country long before Revolu-

tionary times. Many of them are, like heirlooms, passed on from generation to generation, the remnants being all the more highly prized as they become fewer in number. A great deal of the earthen-ware and porcelain used here within the last century has come from the centres of which we have been treating. To the student of the art, also, England has an interest all its own. The workmen of England have, from the earliest times, shown that moral as well as mental capacity for coping with mechanical and scientific difficulties which marks the typical English character. Wedgwood was a remarkable instance of a man who, with materials usually considered of inferior quality for artistic embellishment, steadily aimed at producing works which should be, and actually were, the best of their kind. So it is with the Mintons and Doultons of our day. They surround themselves with the best artists they can find, and have taught England, which was still disposed to reserve its warmest admiration for works executed in the long-coveted and only recently possessed porcelain, to forget the medium in the art it conveys.

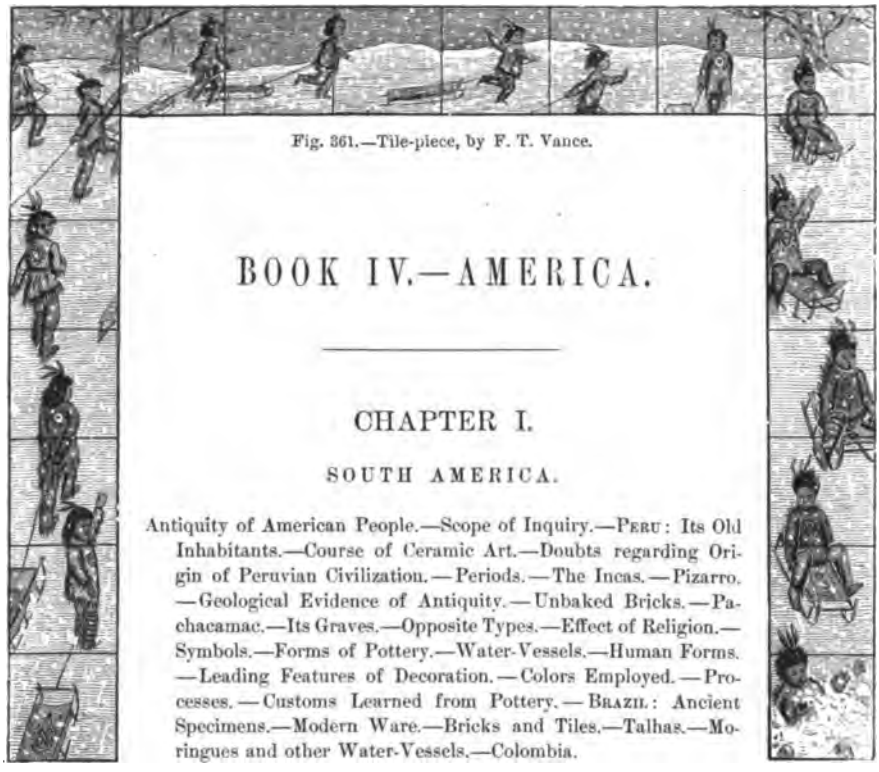


Fig. 361.—Tile-piece, by F. T. Vance.

BOOK IV.—AMERICA.

CHAPTER I.

SOUTH AMERICA.

Antiquity of American People.—Scope of Inquiry.—Peru: Its Old Inhabitants.—Course of Ceramic Art.—Doubts regarding Origin of Peruvian Civilization.—Periods.—The Incas.—Pizarro.—Geological Evidence of Antiquity.—Unbaked Bricks.—Pachacamac.—Its Graves.—Opposite Types.—Effect of Religion.—Symbols.—Forms of Pottery.—Water-Vessels.—Human Forms.—Leading Features of Decoration.—Colors Employed.—Processes.—Customs Learned from Pottery.—Brazil: Ancient Specimens.—Modern Ware.—Bricks and Tiles.—Talhas.—Moringues and other Water-Vessels.—Colombia.

The ceramics of America bring us into a field hitherto unexplored, and showing few footprints of the investigators who have been led to its borders. We are here confronted by a state of things to which we have hitherto been strangers. As creatures belonging to the New World we have been taught to look with a respect in which America has no share upon the aged civilizations of Egypt, Assyria, and China. Their ancient inhabitants were the patriarchs of the world, the pioneers of civilization; *we* are the latter-day heirs to the arts and sciences of which they laid the foundations. The present citizens of those lands are the children of æons, we the mushroom growth of centuries. Research has already partially succeeded in endowing America with so much of the venerable as can be conferred by age. Such notions as those above referred to are being rapidly dissipated. We have long known that the hemisphere we inhabit was styled new, not because its geological formation is of later growth than those of

the Old World, nor because its inhabitants are the after-math of the world's population, but because five hundred years ago it was new to the navigators of the East. We now know that, from Lake Superior to Peru and Chili we can traverse the sites of old settlements and find the vestiges of peoples who lived we cannot tell how many hundred or thousand years ago. In the history of ceramic art America in no way differs from Europe or Asia. We can begin with the sun-dried bricks of the Peruvians, or Mound-builders, and end with the porcelain of Greenpoint. As Europe loosed its hold upon the earlier arts of Greece and Rome, was dismembered, and was for centuries plunged in darkness by the incursions and dispersal of barbarians, and then, as it revived, developed a new artistic sense and greater strength, so America passed through a precisely similar ordeal.

Two thousand years ago—possibly many more—art and civilization existed here, and continued to expand until Europeans came and checked their farther growth. America is not even singular in this, that a broad chasm divides the old from the new.

There are thus two great periods which we shall be called upon to consider. There is, first, the ancient, when the aboriginal people were building curious and wonderful monuments of their presence, and modelling the quaint vessels now found in our museums. There is, then, the second period, limited to little more than half a century, in which art wears a modern guise, when the products of American potteries become a recognized item in the industry of the country, and the manufacture is substantially founded upon a broad commercial basis. Our inquiry will not, therefore, be entirely confined to a recent past and a present chiefly remarkable for the promise that it contains. We shall, in a hasty review, turn back across the centuries intervening between the present time and the advent of Europeans with Columbus, Cortez, and Pizarro, across the barbarism of the Indian period, across even the earlier times, when the Aztecs in the North, and the Peruvians under the Incas in the South, were cultivating their peculiar forms of civilization, to a more remote past occupied by those elder children of Time, to whose heritage these peoples appear to have succeeded. Afterward will come the indulgence of the characteristic tendency of the nineteenth-century American, who is more addicted to looking to the future than to the past. In the mean time, we must

try to accustom ourselves to the fact that, for the purposes of a continuous history, the potters of our own time are the successors of those who deposited their urns in the mounds of the Mississippi valley and in the tombs of Peru.

It will probably be both the only historically consequent and the most lucid method to treat the different countries from south to north. We begin with Peru. We need not go into the theories, mostly fanciful, by which an origin and genealogy are found for the ancient inhabitants of America. We cannot even undertake to solve the question whether the New World may not be the Old.

The evidence in support of America's having been the resting-place of the lost tribes of Israel, of its having been visited from the Pacific by Malays, from the Atlantic by Phœnicians, of the truth of

Fig. 362.—Peruvian Water-vessels.

the old legend of Atlantis, a land which lay beyond the Pillars of Hercules, is in great part composed of inferences from assumptions. Reason would point to Behring Strait as the point at which the first inhabitants entered, but even that supposition may account for nothing more remote than the arrival of the Indians of North America. Or, to find a genealogy for the same people, we might adopt Mr. Griffis's very plausible theory of a Japanese descent, based upon the fact that "for twenty centuries past Japanese fishing-boats and junks, caught in the easterly gales and typhoons, have been swept into the Kuro Shiwo, and carried to America." It is more pertinent to our purpose to find that, amidst a civilization which bears a stamp of originality, ceramic art followed the course it had taken in Europe, Africa, and

Asia. Similarity in forms, even in symbols, may argue nothing more than a mysterious identity in the workings of humanity toward artistic and religious expression. They cannot, without other evidence, be held to prove an identity of origin. This preliminary observation is made that we may not fall into the baseless theorizing which is the bane of science. External resemblances have, before this day, sadly misled scientists, with whom possibilities have become probabilities, and probabilities have unconsciously passed into assumed facts.

Let us take the parallel supplied by the search for the primitive tongue before language became the subject-matter of a science. For centuries the idea was entertained that the honor of priority was to be accorded to the Hebrew. In the sixteenth century Goropius, of Antwerp, proved, beyond a peradventure, that the language of Paradise was Dutch. Erro advocated the claims of Basque; and about a century after Goropius had settled the question, it was gravely recorded in the minutes of the Chapter of Pampeluna, that, though it could not be asserted with confidence that Basque was the primitive language of mankind, yet "it was impossible to bring forward any reasons or rational objection to this proposition, that it was the only language spoken by Adam and Eve in Paradise." Assume the positive, and leave it to objectors to prove the negative! Science came afterward, and found that not fanciful verbal resemblances, but similarity of grammatical construction, was the test of radical affinity, and all the above fine theories were exploded. The rule will hold good with pottery. If two potters at two places far remote from each other, possibly as far removed in point of time, should produce similar forms, it would be rash at once to conclude that they were inspired by the same idea or followed the same model. The adoption of such a course would amount to a resuscitation of the extinct philological rule of comparing the words in different tongues to demonstrate relationship. We shall find a point for this caution as we proceed.

When Peruvian civilization began we have no means of ascertaining. Repeated changes have swept over it. It rose and fell, and rose and fell again, at epochs only partly within our ken. Of the overwhelming antiquity claimed for it some of the facts brought together by Mr. J. D. Baldwin may give an idea. Montesinos, a Spaniard, who believed Peru to be the Ophir of Solomon, dates its ancient his-

tory from the year B.C. 2500. His first period extends down to the first or second century of our era, when the ancient kingdom was broken up into fragments, and shorn of its earlier glory. Then came a long interval of confusion, strife, and internecine struggle, which ended with the advent of Inca-Rocca, the first of the Incas. The Incas had extended their sway over the old limits of Peru, when Pizarro came, in 1531, and with his Spanish followers swept everything back into chaos. A greedy lust for gold was the sole impulse of the treacherous and brutal invaders. Perfectly dead to every sense of honor, stained with the reddest hues of crime, too rapacious to withhold their hands from the commission of any brutality, too crassly ignorant to care for knowledge, the Spanish buccaneers turned Peruvian progress back in its course, and struck such a blow at the vitality of the country that it has never recovered.

It will at once be thought that B.C. 2500 is a very remote date at which to begin the history of a country in the New World, but let us see what countenance science lends to such a chronology. Professor Orton says: "Geology and archæology are combining to prove that Sorata and Chimborazo have looked down upon a civilization far more ancient than that of the Incas, and perhaps coeval with the flint flakes of Cornwall and the shell mounds of Denmark. On the shores of Lake Titicaca are extensive ruins which antedate the advent of Manco Capac (the second of Montesinos' oldest dynasty of kings), and may be as venerable as the lake-dwellings of Geneva." Mr. James S. Wilson, in 1860, found "ancient, or fossil, pottery" on the coast of Ecuador. To help in assigning it an age, the fact is all-important that it was found *below* a marine deposit several feet in thickness. This pottery, then, was made; the land was submerged at a rate almost incalculably slow; it was covered with a marine deposit; the land was then upheaved to its former level, again at a very slow rate, and seventeen years ago, the pottery came to light, like a fossil taken from the rocks, to tell us that at an age so remote that it is hard even for imagination to reach it, the Peruvians were accustomed to working in clay. Compared with this people the Incas are creatures of yesterday, and the earliest date of Montesinos is hardly mediæval. The difficulty is to assign an exact, or even an approximate, date to the ceramic remains we possess. Many of them belong to an era preced-

ing that of the Incas, but no more precise language can be employed in specifying their age. The conditions, moreover, are such that an erroneous deduction might easily be made. The great road from Quito to Chili, for instance, is built chiefly of stone. The same material was used for the inns along its course, and for many other buildings. This road must, at least in part, be ascribed to a period anterior to that of the Incas. At a later date, when the least ancient part of Pachacamac, the ruined city of the Incas, near Lima, was built, sun-dried bricks appear as the chief building material. Pachacamac was originally built by the natives of the coast, and among its ruins are those of one of their temples, composed of adobes painted red. The Inca Mamacuna on the same site is composed of the same material. This is a reversal of previous experience. We have hitherto associated unbaked bricks with the earliest attempts of the potter. If we argue from Asiatic or European usage, the most ancient Peruvians would appear as primitive settlers ignorant of art, which we have already seen they were not.

The best articles of pottery have been taken from the tombs. The connection of moulded clay with the burial of the dead was thus universal. We have seen the Egyptian mummy surrounded by vases and jars, urns holding or covering the ashes of the ancient British dead, the hut-shaped urn of the Teuton, the remains of the Roman legionary deposited in an *olla* covered by tiles or bricks, and the *tuguria* of Etruria; and here, in Peru, is a precisely similar custom regulating the burial rite.

At Pachacamac Mr. Squier found three strata of mummies. Most of these were taken from little vaults of adobes, roofed with sticks and rushes. In one of them he found, lying beside the dead family, the implements of the husband's business as fisherman, the wife's domestic articles, including a primitive spindle, a girl's work-box under her body, small contrivances of hollowed bone for cosmetics, and between her feet the dried body of a pet parrot. An infant's body had a rattle beside it. "Besides the bodies there were a number of utensils, and other articles in the vault; among them half a dozen earthen jars, pans, and pots of various sizes and ordinary form (Fig. 363). One or two were still incrusted with the soot of the fires over which they had been used. Every one contained something. One was filled with

ground-nuts, familiar to us as peanuts; another with maize, etc., all except the latter in a carbonized state." Probably the nuts and maize were deposited for the use of the deceased in the future, and the supposition helps to increase the illusion that we are away from Peru, and back among the graves of Ancient Egypt. To this superstition, common, as we have seen, to nearly all peoples, we are therefore indebted, not only for our knowledge of Peruvian pottery, but for much of our information regarding the people themselves. No other place could have equalled the grave in safety for the preservation of the records which have been passed from its secrecy into our hands. The imaginary wants of a future state led the poor and the Inca to be laid in their respective vaults with the articles they had used here, and which they were supposed to stand in equal need of hereafter. "Every Inca," says Mr. Ewbank, "had his cooking utensils in his cemetery; not only his gold and silver ware, but, observes the native historian, 'the plates and dishes of his kitchen.'" The favorable conditions of soil and climate under which they were interred increase the difficulty of telling their age by examination merely. They might from their appearance have been buried for generations or for ages. It is, however, evident, from the character of the deposits and the assumed wants they anticipated—corn, cooking-vessels, toys, pets, fishing-lines, spindles—that the Peruvians shared the belief held by Christians, that here they were strangers and sojourners. They prepared for the next life by taking all their movables with them, as if merely changing their place of abode.

Fig. 363.—Pottery from Pachacamac.

The tombs being thus the great receptacles of Peruvian antiquities, what do we find to be the general character of the art represented in the pottery? The same that is found in the architecture or statuary of the country, viz., the greatest possible disparity in both design and workmanship. On one hand are creations of art, the conception of an artist carried out by an artist's hand; on the other are the

most outrageous concessions to an idolatrous barbarism. In a similar manner, earthen-ware vessels of diametrically opposite types are found side by side in the same tomb. To perplex us still farther, French writers have advanced the theory that for a very long period art in South America gradually but surely declined. They state that from a primitive simplicity and purity of style it sank step by step into barbarism.

This may or may not be true, but in any case the two sets of facts may be thus explained. We have seen that in Egypt religion set a limit to art. Practically the matter resolved itself into this, that the potter-artist could rise above neither the god he worshipped nor the sacred symbol he revered. Priestcraft is necessarily conservative. Change and improvement involve a departure from the old, and the ancient gods might be left behind and their shrines deserted, were art to rise above the delineation of the artistic abominations which were encased in sacred tradition as the symbols of deity. The image cannot change any more than the god. In Egypt nearly every form of life—bird, beast, and plant—was monopolized by its religious system and petrified into a traditional form. It is possible that a similar influence was at work in Peru. The rude forms may really have been what we have styled them, "concessions to an idolatrous barbarism."

It is necessary in the case of Peru, as in that of China or Egypt, to make an attempt to discover the essentials of its religion, that we may understand its ceramic art. With Peru, however, we must in part work backward, by first constructing a system from what we find upon pottery. Mr. Squier gives much valuable information on this point. "To them," he says, referring to the sacred vessels of pottery devoted to religious and mortuary services, "in default of other probable or possible means of recording a religious symbolism, we must look for all the scanty illustrations we are ever likely to obtain of the religious ideas and conceptions of their makers." Pachacamac took its name from the chief divinity of the people prior to the coming of the Incas, and means, "He who animates the universe," "The creator of the world." The idea of a supreme being may thus be inferred to have been the foundation of a system which, like many other ancient religions, resorted to symbols, and thence by an easy transition assumed in popular practice the form of idolatry. We thus

find that when the Inca Yupanqui invaded the Chimus, he called upon them to renounce their worship of fishes and animals, and turn to that of the sun. There is no reason for believing that the creed of the Incas was superior to that of the Chimus. It appears rather that, in broadly condemning that people for their worship of animals, the Inca mistook the use of symbols for the adoration of the animals so used. Our researches in Egypt and elsewhere would lead us to the conclusion that if the worship of animals existed anywhere, it resulted from a misapprehension by the ignorant of the purpose of symbolizing by living things the attributes of a higher power. As in Egypt, so in Peru the religion may be said to have been dual. On the one hand is the worship of a supreme power, and the personification of visible agencies in air, earth, and water. On the other is a lower form, an idolatry bordering upon fetichism. Under the higher form water is personified, and the god thus constructed is accompanied by befitting symbols of his domain—the turtle, fish, or crab; the earth is personified, and has as symbols the serpent and lizard; the air is also personified, and the figure carries in his hand a spear, as representing the thunder-bolt, his symbol. Mr. Squier gives an engraving of a design upon a Chimu vase, in which the powers of earth and sea are arrayed in combat. The latter is armed with the claws and shell of a crab, hence assumed to be his symbol. The former bears on his front a serpent's head, wields a horned serpent in one hand, and has two similarly horned reptiles hanging at his back: hence the serpent is accepted as his symbol. Probably coeval with a form of belief which sought such expression, was another under which images were resorted to, and set up as the recipients of the worship originally directed to a higher power. It is not impossible that the worship of a supreme being, and of his attributes and symbols, may have been coexistent among the same people. On the contrary, such actually appears to have been the case; and if the highest form of belief existed along with the lowest form of expression, it is not hard, as already pointed out, to find a reason for the coexistence of the highest and lowest forms of art.

As to the French theory of a long-continued decline of Peruvian art, if we assume its truth, it may be explained in the light of Peruvian history. The supposition has reference, apparently, to the ear-

liest Peruvian elevation, prior to the dismemberment of the empire. Before the coming of the Incas art must have suffered from the civil discord, and under the Incas its recovery was probably hindered by the wars which extended down to the Spanish conquest. After Pizarro—a second death.

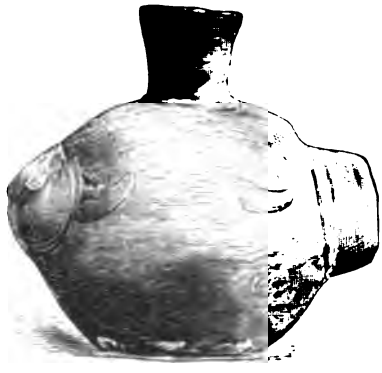


Fig. 364.—Peruvian Water-jar. (Smithsonian Institution, 5341.)

Let us now examine some of the forms of Peruvian pottery. It would be impossible to classify or enumerate them all. Nature and religion contributed decorations and forms. The beings of earth, sea, and air—men, fishes (Fig. 364), animals, and plants (Fig. 365)—were modelled in clay, and decorations were drawn from the same sources and from the customs of the people. The only classification of a comprehensive character is that into coast and inland. The former of these divisions comprises the greater part of the specimens now existing, including, of course, all from Pachacamac, Huacho, Santa, and Truxillo, or Chimu. The latter includes all that comes from Cuzco (Fig. 367) and other places in the interior.

Visitors to the Centennial Exhibition may remember to have seen a large array of vases and household utensils sent from Lima. In the collection of Mr. W. B. Colville were several clay idols, belonging to the period before the advent of the Incas. Some of these were wrapped in cloth, and none possessed any claims to artistic finish or design. A similar image was exhibited by Brown University, in the Rhode Island section. All were mere caricatures of the human form. Along with them, in the space allotted to Lima, were several hundreds of quaintly shaped water-vessels and bottles. In some of these were to be found those compound typical forms distinctively American. In others appeared forms which at once recalled the Egyptian. Of the latter the most remarkable were

Fig. 365.—Peruvian Pottery.

the double or twin bottles joined together by bands at the neck and base, after a fashion observed in Egypt and also in Mexico. It is unnecessary to conclude from this fact that Egypt had an ancient connection with Peru. Sometimes on one of the bottles a head was placed as a cover to the orifice, others had both necks plain and open.

Fig. 866.—Peruvian Drinking-vessel. Stag and Doe.

The more characteristic forms belonged to the class comprising the water-vessels. Of these the favorite form appeared to be what might be described as a pot-bellied graybeard ornamented with a rude semblance of the human face, hands, and feet. It was made of all sizes. Another might be taken as the prototype of the modern round-bodied glass water-bottle, or carafe. A third had the arched syphon handle characteristic of an entire class; and on the body, under the span of the arch, was the figure of an animal, too rudely modelled for us to give it

Fig. 867.—Vases from Cuzco.

a name. On a small proportion of those mentioned weak and undecided colors were applied in a primitive style of decoration, and in others the ornamentation consisted of lines and dots or studs.

The Peruvian potters bestowed a large share of their inventive talent upon water-vessels, and the reason is not difficult to find. According to its present limits, Peru extends from the third to the twenty-first degree south latitude. In the sixteenth century it included the entire territory now divided into Ecuador, Bolivia, Peru, and Chili. The country in which its remains are found extended over two thousand miles south of the equator. In some parts of this vast territory rain occasionally falls, in others never. In this fact we see the necessity for ample means of slaking thirst. The quaint forms are largely due to the dread of small creeping animals finding their way into the jars or flagons. The latter were, therefore, made in the comparatively intricate shapes already described, and in others still more complex and more highly ornamental.

Fig. 368.—Coiled Water-vessel. Peru. (Smithsonian Institution, 1408.)

The largest class comprises those with the bifurcate spout, which serves at the same time for a handle. This is found attached to vessels of every conceivable form. The simplest shape is that seen in the specimen from the Smithsonian Institution (Fig. 368), the body of which, however, is somewhat peculiar, by reason of its rising from the base in a coil of spiral folds. Several modifications of this style are seen in the engraving (Fig. 369). The presence of this spout in any of its forms is of special interest as distinctive of pottery from the coast settlements. Its modifications include a vast number of interesting examples more or less artistic. From the single vessel with bifurcate spout we may pass to others in which there are two openings joined together by a handle. Higher than these are the vases, in which, with only one orifice, the body is double.

In one the receptacle for the water consists of a series of four chambers, with pointed bases arranged in a circle, and joined together (Fig. 370). The handle is the arch, with spout on the top. In some the vessel assumes the form of a fish, with a handle on the ridge of

the back, or of an animal with semi-human face. The twin shape is exceedingly varied. A very fine specimen has the bottles with round, flattened bodies, and one of them surmounted by a diminutive human

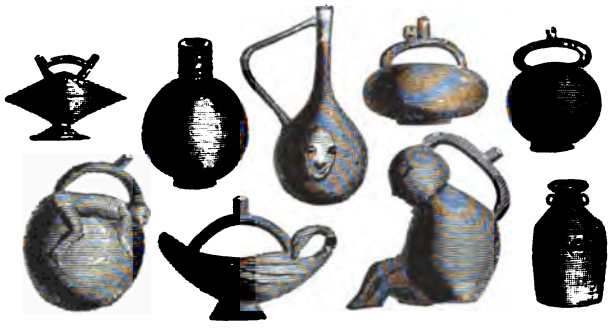


Fig. 369.—Ancient Peruvian Pottery.

figure holding a cross on the right shoulder, while from the left the handle crosses to the tall, slightly tapering neck of the twin bottle. The flat sides of the bottles are decorated with studs and zigzags, which might be construed into serpentine forms. A bird sitting in the cavity of one neck sometimes takes the place of the heads already alluded to. In some of the double bottles the communication

Fig. 370.—Peruvian Pottery.

is through the handle. In others it is effected by joining the bodies together, as in the curious specimen (Fig. 371), in which the rudely modelled kneeling figure of a man eating and drinking is joined to

the twin compartment at the back by the passage-way between the two sections. There are many other varieties; but the most remarkable specimens are those in which an attempt is made to simulate the human head and form. The former is carved in coarse lines covering the entire expanse of a heavily formed vase, the handles of which, low down on the body, represent the ears. Even lower than this, and parallel with the most primitive *bessa* of Egypt, are other wide-mouthed jars of a type altogether different, designed to serve a purpose entirely distinct from those last considered. From these as a base we can rise to what we must regard as the *chefs-d'œuvre* of ancient American art.

Fig. 371.—Peruvian Water-vessel. (Smithsonian Inst., 1899.)

It is curious to observe, *en passant*, a similarity of usage between Peru and Greece (Figs. 372 and 373) in selecting the human head as the model of a drinking-cup; but let us observe the Peruvian type. In one (Fig. 373) the head is thrown back, and from the forehead to the crown passes the syphon handle. To balance this backward weight the face is thrust forward, and the expression is affected by the position. We see that the artist has made allowance for this in the lines round the mouth and the slightly parted lips. A faint suspicion of weakness is thus left upon the countenance. Taking it in profile, one almost wonders where the artist found a model for the large but well-formed nose and

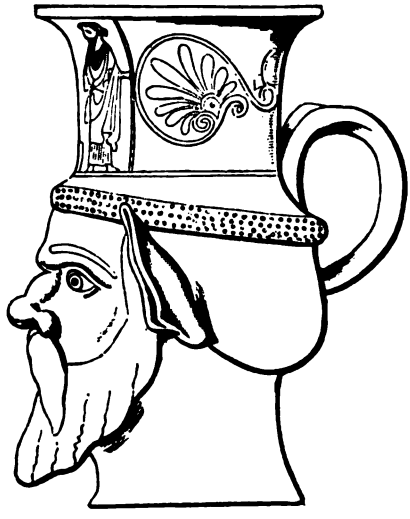


Fig. 372.—Greek Drinking-cup.

strong underjaw. Even finer is another head (Fig. 374), covered with a close-fitting cap falling in heavy flaps behind. In this the face is, we would say, of the best Saxon type, full of strength, vigor, and determination. Not a weak line can be found. With it before us, all wonder as to the civilization of ancient Peru is at an end. Apart altogether from the workmanship, there are moral qualities traceable in the model which convince us that with such men civilization was a condition of life; not a labor, but a necessity. The face wears the placid, self-confident, powerful expression of one born to be a ruler of men. That the artist has caught such a look of strength in repose may imply either his mastery of portraiture or his familiarity with a high type of manhood.

Fig. 373.—Peruvian Drinking-vessel.

Belonging to a lower order of the same class is that given in the engraving (Fig. 375), the head of a man whose whole history is written in indelible lines in his face. The head is that of Ruminhauy, or Rumminaui, a Peruvian cacique. The piece is from the collection of Senhor Barboza, Rio de Janeiro, and originally belonged to General Alvares, "the last Spanish political chief and commandant of the province of Cuzco." Mr. Ewbank saw it at Rio, and gives a description of it, and a sketch of the monster whose features are thus preserved. The piece is of reddish clay, modelled by hand, nine inches in height, and with an internal depth of six inches. Everything indicates

Fig. 374.—Peruvian Water-vessel.

that the work is a likeness. Little peculiarities, such as the want of a tooth and a scar on the cheek, cannot be explained upon any other hypothesis. The piece is comparatively recent. When, in 1531, Pizarro entered Peru at Tumbez, the Inca, Huayna Capac, had divided his kingdom between his two sons, Huascar and Atahualpa, between whom a struggle ensued for the sole power, and resulted in the death of Huascar. Atahualpa was afterward seized by Pizarro, and, under circumstances of gross treachery and brutality, was put to death. It was then that Ruminhany comes upon the scene in the history of Garcilasso de la Vega. Scheming to succeed Atahualpa, he invited his brother and children to a banquet, and, after making them drunk, murdered them. With the skin of Atahualpa's brother he covered a drum, and left the scalp hanging to it. His next atrocity was the burying alive of a number of women, young and old. "Thus," says Garcilasso, as quoted by Mr. Ewbank, "did this barbarous tyrant discover more inhuman cruelty and relentless bowels by this murder committed on poor silly women, who knew nothing but how to spin and weave, than by his bloody treachery practised on stout soldiers and martial men. And what farther aggravates his crime was, that he was there present to see the execution of his detestable sentence, being more pleased with the objects of his cruelty, and his eyes more delighted with the sad and dismal sight of so many perishing virgins, than with any other prospect. * * * Thus ended these poor virgins, dying only for a little feigned laughter, which transported the tyrant beyond his senses. But this villany passed not unpunished; for, after many other outrages he had committed during the time of his rebellion against the Spaniards, and after some skirmishes with Sebastian Belalcaçar (who was sent to suppress him), and after he had found by experience that he was neither able to resist the Spaniards, nor yet, by reason of his detestable cruelties, to live among the Indians, he was forced to retire with his family to the mountains of *Antis*, where he suffered the fate of other tyrannical usurpers, and then most miserably perished." These details, beside giving a ghastly kind of interest to the object engraved, enable us to form an opinion of the artist's ability. Aside from the

Fig. 375.—Head of Ruminhany.

possibility that the piece has preserved the actual features of the monster, it certainly gives expression to all the bad qualities with which the historian has clothed Ruminhauy, and contrasts strongly with those given above, and with that (Fig. 376) from the Smithsonian Institution.

Fig. 376.—Peruvian Water-vessel.

After these individual examples a few of the leading points of Peruvian decoration and technique must be noticed. We have seen that in forms the leading tendency was toward the reproduction of the natural object. Mingled as the high is with the low, the ultimate aim appears to have been the excellence contained in similitude. In decoration we find designs with which old-world experience has made us more or less familiar. The vessels on which they appear illustrate the tendency not toward a purely ornamental art, but toward the artistic embellishment of the useful. Like all other nations, the Peruvians rose from use to beauty, and having devised the shape best subserving the useful object, they then attempted its ornamentation. In doing so they resorted to decoration closely allied with the European and Asiatic. Their fret is the same as that distinguished by the name "Grecian," although it originally came from Asia. Their scrolls also occasionally bear a close resemblance to the European. The faces already referred to are either incised, engraved, or laid upon the surface. Those engraved leave the impression of having been cut into a body made

Fig. 377—Peruvian Water-vessel. (Smithsonian Institution, 7242.)

sufficiently thick to permit of the successful application of such a method of decoration. They have no appearance whatever of having been made from a mould. Of the same general character is the drinking-vessel (Fig. 377). The design, the import of which it is difficult to determine, is graved in a panel covering the greater part of one side of the piece. Other pieces have the figures similarly graved upon panels studded with dots, for the evident purpose of heightening the relief. On one of this class is a long-billed bird, and on another, which is here given (Fig. 378), the design consists of a nondescript animal. A singular resemblance to a Chinese habit is discoverable in the employment of monkey forms, either for handles or otherwise, where the Chinese used those of lizards. On one of the double-bellied bottles common to Peru, China, and Japan, we find two monkeys clinging to the upper sphere, as if supporting it.

Fig. 378.—Peruvian Pitcher. (Smithsonian Institution.)

The chief colors employed were red, black, and brown. It appears probable that they were mineral colors fixed by firing, since we cannot otherwise account for their preservation. The Chilians are said (Hartt) to have baked their pottery in holes dug in the hill-sides, and to have applied to it a sort of varnish made of mineral earth. It is worth noting, however, that the Peruvians possessed vegetable dyes of which we have no practical knowledge. All the wonderful colors used for dyeing cloth, which preserved their original hue and brilliancy after ages of exposure or burial in the tombs, are vegetable. The lasting quality alone does not, therefore, compel the conclusion that the colors on pottery are mineral.

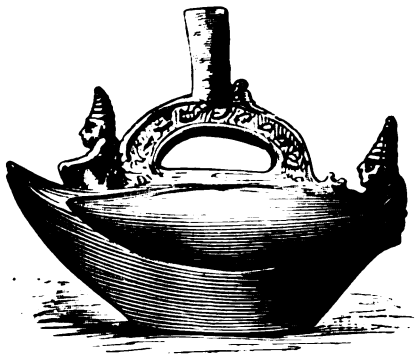


Fig. 379.—The Caballito, from Chimu.

The consideration of the uses of these colors, and of several other

kinds of decoration, may be combined with that of the customs and tastes of the Peruvians as reflected in their clay records. Travellers reaching Peru from the sea tell of encountering, as they neared the shore, numbers of the natives paddling their *caballitos*. These quaint apologies for boats are merely bundles of reeds tied together, across which the boatman strides, and rows, Indian fashion, with a double-bladed paddle. The prow is turned up in front. So crazy a craft would seem to be among the things least calculated to inspire the potter with an idea. It did, however, prove suggestive (Fig. 379), and the *caballito* has been found in clay on the sites of different coast settlements.

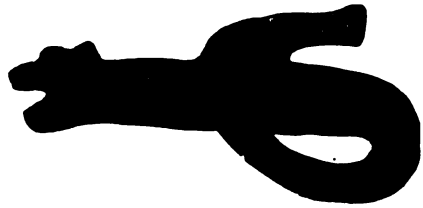


Fig. 380.—Trumpet. Baked Clay.

We also learn from their ceramic decorations that the Peruvians of Chimu lived in buildings of a single story with slanting roof, and having a hole in the gable for light or ventilation. That they had a taste for music is placed beyond dispute by their vessels and instruments of clay (Fig. 380). Some of their ruder devices are very singular. Mr. Ewbank mentions a whistle formed in the body of a small bird of baked clay. The relic, he says, was very old, and the head missing. "The tone was shrill and clear, and was pleasantly modified by partially or wholly closing with the finger an opening in the breast." The water-vessels are also sometimes so constructed that the handle passes from the spout on one side to a similar projection on the other, on which is a bird or animal's head. The air rushing through a hole left in the latter, as the vessel is being filled or

Fig. 381.—Tambourine Player.

emptied, frequently causes a sound resembling that peculiar to the bird or animal. To this class of "whistling jars" belongs the double vessel (Fig. 371) representing a man at lunch. Musicians and musical instruments are painted upon vases, and, as in the cut (Fig. 381), the vessel itself may be a representation of a musician.

Fig. 382.—Black-ware. Peruvian. (Smithsonian Inst., 1701.)

The decorations hitherto observed have consisted of gravings in the paste, dots, and colors. The black-ware jar (Fig. 382) is a farther exemplification of the first of these methods. The head and the ears of corn which divide the surface into four sections have all been apparently carved in an originally thick body. By cutting it down the ears are left in high relief. The specimen is evidently very old. The vessels decorated with paintings are generally of a totally different artistic order, although a few, such as the cup here given (Fig. 383), combine painting with a rude attempt at modelling. The handle consists of a monkey with its forepaws, or hands, resting upon the edge of the cup. It was taken from a grave at Arequipa, eleven feet below the surface of the soil, and was brought to this country and presented to the Smithsonian Institution by United States Consul Eckel, Talcahuana, Chili. The decoration is dark brown on a creamy ground. Similar to it, but having the mitred head of an Inca on the handle, is the cup on the left of the adjoining cut (Fig. 384). The other vessels, with the exception possibly of the lower one, have been used as pans or boilers, the largest showing marks of the fire, and all being destitute of ornament with the exception of the painted stopper of the largest specimen. It thus appears the Peruvians used earthen-ware for culinary purposes, and several vessels of this kind are elaborately

Fig. 383.—Peruvian Cup, found at Arequipa. (Smithsonian Inst., 1812.)

painted in black and red on the yellow ground. In the illustration (Fig. 385) Nos. 1 and 3 are of this class. They were apparently designed either to be suspended above an open fire, or to rest in a stove-

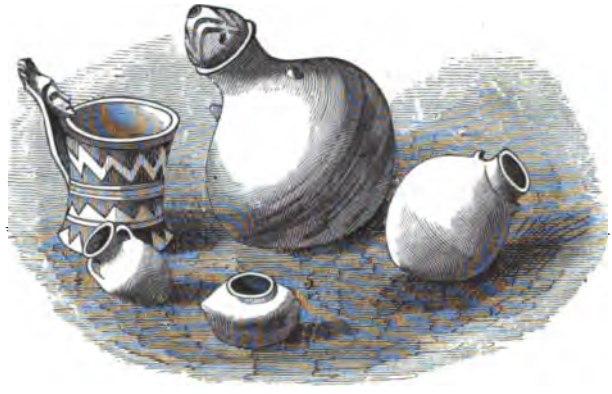


Fig. 384.—Peruvian Pottery.

cover perforated for their reception. To serve the purpose of a lid hollow stoppers, like No. 4, were used. The lower part of the vessels is undecorated. The flat-bottomed pitcher and bowl, Nos. 2 and 5, are especially worthy of attention for their decoration. The light red body of the former is covered with a dark chocolate ground-color, in which the design appears in white—a mingling of the star, circle, and chain

Fig. 385.—Peruvian Vessels.

pattern. Other varieties are seen in the pieces (Fig. 386) from Senhor Barboza's collection. On the left is a caldron, flat-bottomed and with side rings. The greater part of its ornamentation has been worn away.

Fig. 386.—Peruvian Pottery. (Senhor Barboza Coll.)

The remaining three pieces are supposed to have been used for carrying liquids, and that on the right has, besides the rings on the body, perforated ears immediately below the lip. The decoration of the small round-bottomed pichet consists of incised lines. The long-necked bottle is ornamented in colors, in regard to the arrangement of which the piece may be taken as representing a large class of vessels in which the decoration—consisting of squares, the larger containing the smaller—is arranged vertically. The art is of the same order as the geometrical designs and concentric circles of Phœnicia and early Greece. We find it again in the shallow ladles (Fig. 387), notably in that on the right, which was found near St. Sebastian, Cuzco, in 1820.

Fig. 387.—Peruvian Pottery. (Barboza Coll.)

On these pieces yellow is combined with the red, white, brown, and black we have hitherto met. A yet richer palette was brought to the decoration of the flat circular bottle (Fig. 388), the upper part of which is painted upon the red paste in black, white, green, and purple lines.

As to the processes to which the Peruvians resorted, Marryat quotes a passage from Southey's "History of Brazil" which gives a little light. "The Tupinambas," he says, "were in many respects an improved race. The women were skilful potters. They dried their vessels in the sun, then inverted them, and covered them with dry bark, to which they set fire, and thus baked them sufficiently. Many of the American tribes carried this art to great perfection. There are some who bury their dead in jars large enough to receive them erect.

"The Tupinambas, by means of some white liquid, glazed the inside of their vessels so well, that it is said that the potters in France could not do it better. The outside was generally finished with less care. Those, however, in which they kept their food were frequently painted in scrolls and flourishes, intricately intertwisted and nicely executed,

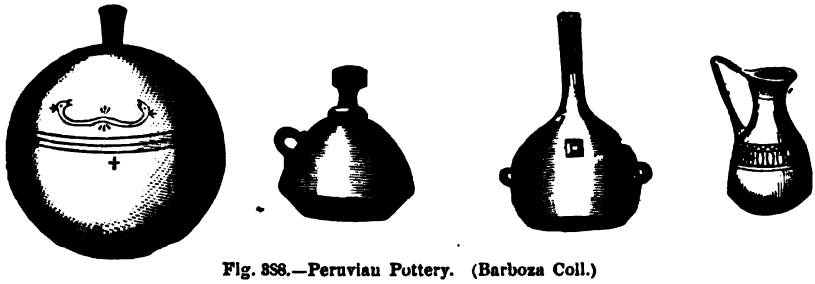


Fig. 888.—Peruvian Pottery. (Barboza Coll.)

but after no pattern; nor could they copy what they had once produced. This earthen-ware was in common use; and De Lery observes that in this respect the savages were better furnished than those persons in his own country who fed from trenchers and wooden bowls." Other Indian tribes used water-colors after burning, and also a vegetable varnish. How far these customs extended we cannot define by geographical limits. It shows the tendency of this people, already remarked in the Peruvians, to making beauty subservient to use. An inside glaze in connection with a rough exterior is something rarely to be found elsewhere. That the Peruvians used moulds is almost certain. Mr. Hartt is of the opinion that many of their vessels were moulded in two parts and then luted together, and that some of the moulds were made from natural objects. He also suggests that the mould was sometimes made from a pattern vessel, and then baked.

To conclude as to Peru, its ceramics may yet be more fully and systematically studied. At present it is instructive to remark how, on the assumption of its art being original and not derivative, it sought expression in ways so nearly identical with those of the Old World. A theory of chronology cannot, in the present condition of our knowledge, be constructed. The works passed in review evidently belong to epochs far apart from each other, and probably to different branches of the people inhabiting Peru. Some of the specimens are undoubtedly very old, and others, including the painted wares, cannot be ascribed to a very remote era. The head of Ruminhauy cannot be referred to a more distant date than the middle of the sixteenth century, and the modern work, though inferior to that we have noticed, is too closely allied to it, in composition and the style of decoration, for us to feel justified in according to much of the older painted pottery a greater age than two or three hundred years.

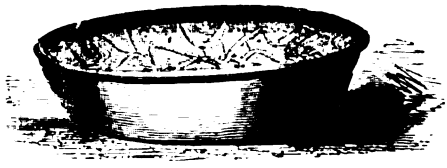


Fig. 389.—Brazilian Pottery.

Of modern Brazil we would expect much, if we take its ruler, the indefatigable and enlightened Dom Pedro, as a representative of his people. Our knowledge is extremely meagre. In an otherwise admirable section at the Centennial Exhibition, the pottery was of little consequence. The best works were unglazed terra-cottas, Greek in form, and decorated with Greek subjects. There were also some vases of red clay representing native Brazilian forms decorated with reliefs, medallions, and faces, in light-brown clay. In others the colors

Fig. 390.—Brazilian Coroados Chief, in Funeral Urn.

were reversed, the light brown clay forming the body and the red the ornaments. Some of the better specimens are now in the Smithsonian Institute, at Washington.

Of the ancient Brazilian pottery Mr. Thomas Ewbank describes a basin (Fig. 389) in the Rio Museum. It is made presumably by hand, as no marks of the wheel are observable, of a grayish yellow clay imperfectly burned, covered with a light and poor kind of glazing, and is overrun by minute cracks. It is colored inside and out with red, yellow, and brown. The outside was black with smoke, and sug-

Fig. 391.—Modern Brazilian Pottery.

gests that the vessel may have been used as a pot or caldron. The decoration consists of a dark-red band just below the rim, and a tangled mass of lines and dots. Some of the tribes, and among them the Coroados of the Parahiba River, used earthen jars for the reception of the mummies of their chiefs (Fig. 390). Mr. Ewbank also gives some interesting details regarding the making and quality of modern Brazilian pottery. On one estate which he visited he found a number of female slaves engaged in making bricks and tiles. The native Brazilian gives no encouragement to foreign trade, preferring the pottery of his own country as better suited to the domestic usages

among which he lives. Water-vessels form the staple of the industry, entire cargoes sometimes consisting of *talhas* and *moringues*, for holding water and drinking. The large centre piece in the illustration (Fig. 391) is a *talha*, and may be seen in almost any Brazilian house. It will hold from ten to fifteen gallons. The four vases in the engraving, two on either side of the *talha*, are varieties of the same vessel. Of the drinking-vessels the most common is that called the "monkey" (Fig. 392, *a*). Although it holds from a gallon and a half to two gallons and a half, it is used without the intervention of a

Fig. 392.—Modern Brazilian Pottery.

tumbler, the smaller spout being applied to the lips. In the same engraving, *b*, *c*, *d*, and *e* are table moringues, as are those at *i*, *i*. The decanter, *h*, is common porous earthen-ware, admirably suited for keeping its contents cool. The ewer and basin, *f* and *g*, are highly colored earthen-ware from Bahia, and between them stands an Indian moringue of ingenious construction. It is filled from the bottom by means of the tube marked by a dotted line. The cup-like vessel at *k* is one of the ordinary kind of censers.

To show that the Peruvians did not necessarily use mineral colors for their pottery, Mr. W. H. Edwards's description of the processes he found among the wild tribes on the Amazon may be referred to. Their colors were of the simplest kind: indigo blue, black from the juice of the mandioca, green from another plant, and red and yellow from clays. A small kind of palm was made into a brush to apply the pigments. The designs consisted of squares, circles, and rudely drawn figures. A resinous gum was rubbed over the vessels after they had been warmed, and answered all the purposes of a glaze.

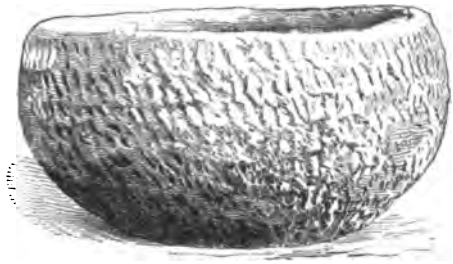


Fig. 393.—Corrugated Ware. Colombia. (Smithsonian Institution, 15,352.)

Before leaving the South American continent attention may be directed to a single specimen from Colombia. It is (Fig. 393) an unpainted bowl of corrugated ware, and is of importance to the present inquiry, as belonging, apparently, to a class of pottery of which examples have been found in many parts of the North American continent. These will be treated of hereafter.

CHAPTER II.

CENTRAL AMERICA.

Connection with Peru.—Nicaragua.—Ometepec.—Modern Potters.—Guatemala.—Ancient Cities.—Who Built Them.—Copan.—Quirigua.—Palenque.—Mitla.

PASSING the Isthmus we reach the archæological wonderland comprising Central America and Mexico. It is not improbable that there was an early connection between the ancient occupants of these regions and the South Americans. As they appear to us in their architectural remains, however, there is little beyond the grandeur common to their undertakings to suggest affinity. At the time of the Conquest the natives of the Isthmus had undoubtedly relations with Peru. It was there that Balboa and the more successful Pizarro first heard anything definite of that country. On Pizarro's second attempt to reach the rumored land of gold, he met one of the Peruvian *balsas* laden with textile fabrics, silver mirrors, vases, and general merchandise. It is curious to find Mr. Squier describing the same primitive craft in the Gulf of Guayaquil, more than three hundred and fifty years later. These rafts could hardly have been used for distant voyages, but were apparently the means of carrying on a coast trade between Peru and the north. The inhabitants of the Isthmus had a tol-

Fig. 894.—Red-ware Vase. Ometepec. (Smithsonian Institution, 28,914.)

erably intimate acquaintance with Peru, and Balboa, according to Mr. Baldwin, gained clear information in regard to that country from natives who had evidently seen it. From this it may be inferred that the intercourse between the two peoples was sufficiently close to account for any similarity between the pottery belonging to Central America and that of Peru.

Fig. 395.—Nicaraguan Vase. Ometepec. (Smithsonian Institution, 28,436.)

Passing northward through Costa Rica, where many specimens have been found, we reach Nicaragua. Dr. J. F. Bransford, U. S. N., exhumed from the graves on Ometepec Island, in Lake Nicaragua, a number of very interesting relics, which are now in the Smithsonian Institution. They are especially worthy of study as having been discovered in different deposits marked by successive layers of volcanic matter. One of the oldest (Fig. 394) was taken from a grave below the low-water level of the lake. Making due allowance for the fact that the lake lies in a region dotted in every direction with volcanoes, the grave and its contents must still possess a very respectable antiquity. Generally the old burying-grounds occupy elevated sites. The design resembles the double cross, and is graved in the paste. A similar style of decoration appears on another vase (Fig. 395) from the same district. The red clay is covered with a creamy enamel, overrun with incised lines. These are carried round the body in two bands of three lines each, and are otherwise disposed over the surface without any apparent method in the arrangement. The colors found upon many of the Peruvian vessels, red, creamy buff, and black, are seen upon the tripod (Fig.

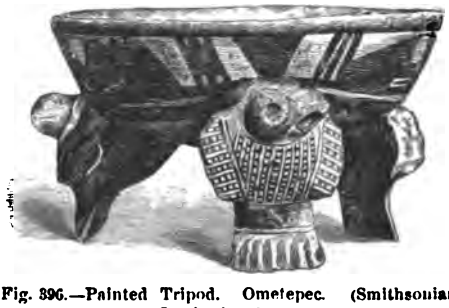


Fig. 396.—Painted Tripod. Ometepec. (Smithsonian Institution, 28,479.)

396), also from Ometepec. Whatever may have been the purpose for which this vessel was employed, its use was not confined to Ometepec. At Gueguetenango, in Guatemala, Mr. Stephens found one of

Fig. 397.—Burial Urns from Ometepec.

polished ware of the same general design. It was taken from a vault containing bones, under a religious—probably a sacrificial—pyramidal structure. The specimen from Ometepec was found in a grave.

The urns of the ancient Nicaraguans are generally of one shape (Fig. 397), and have been found containing both ashes and unburned bones. Terra-cotta vessels of all kinds, some of them painted, have been dug up both within and beyond the bounds of the cemeteries. They occasionally take the form of men (Fig. 398) and animals.

Fig. 398.—Terra-cotta from Ometepec—½ size.

The present inhabitants are skilful potters. They follow methods of decorating practically identical with those of the Brazilians, and such as they have been acquainted with for at least three centuries. The wheel is unknown among them. Colors and a kind of glaze are both brought into requisition.

The old inhabitants of Guatemala have left clay idols and urns. One of the former, from Santa Cruz del Quiche, and here given in front and profile (Fig. 399), is

hollow, very hard and smooth. It is said to be the image of Cabuahuil, one of the old deities of the country. From the same district

Fig. 399.—Terra-cotta Hollow Figure, from Santa Cruz del Quiche, Guatemala.

come the terra-cotta heads (Fig. 400), one of which—that on the left —is hollow, and the other is solid. They are well polished and extremely hard.

Resembling the burial urns of Ometepec is one taken from a mound at Gueguètenango (Fig. 401). The chief differences are the handle and a decoration in relief on the unpolished surface. It was accompanied by a vase or cup (Fig. 402) of polished ware tastefully decorated with bands and a graved design.

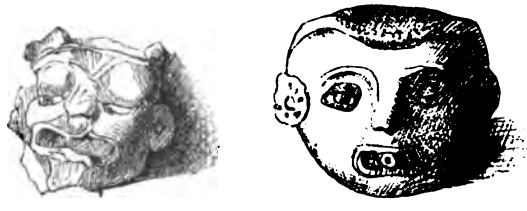


Fig. 400. — Terra-cotta Heads, from Santa Cruz del Quiche, Guatemala.

Over this entire region, extending from Nicaragua to Mexico, and only partially explored, there are evidences of successive changes having taken place between

the Spanish conquest and a remote antiquity. As in Peru, dates are purely conjectural. Epochs are marked by broad divisions, such as make it clear that the changes which took place were deeply felt.

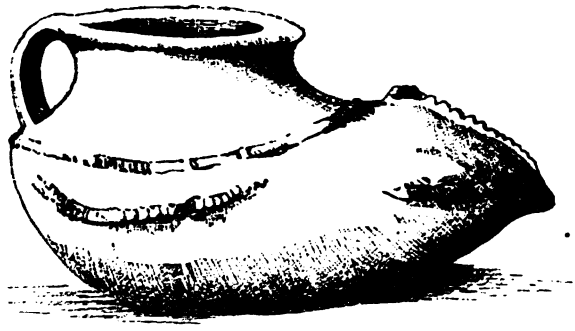


Fig. 401.—Vase found at Gueguetenango, Guatemala.

History, properly so called, gives us but little aid. We are told of a time when the Chichimecs inhabited the country — a rude, ignorant people, classed as aboriginal. The name Chichimecs is applied to all savage tribes. They may have been either the original inhabitants of the country, or wanderers from the Peruvian centre of civilization, from which they had been separated so long that they had relapsed into barbarism, or detached portions of the original settlers who travelled from the north to the south. In any event, civilization came to Central America with the Colhuas, who introduced the arts and industries, and left the grandest monuments to be found in that strange land. Who were the Colhuas? and whence did they come? No positive answer can be returned to these questions, and that is selected which appears most reasonable, viz., that they came by sea from the northern parts of South America. Tradition points in this direction. After the Colhuas the Toltecs arrived, and reduced their predecessors to subjection at a suppositious epoch, B.C. 1000. For some reason or other, possibly on account of both internal disorganization and attack from without, the Toltec power is said to have decayed a few centu-

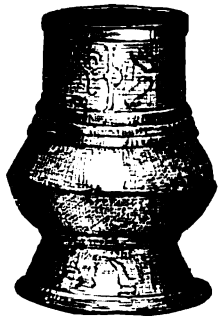


Fig. 402.—Vase found in a Mound at Gueguetenango, Guatemala.

ries before the Aztecs appear on the scene. Several hundred years later (1519) Cortez arrived, and the results marking Pizarro's conquest of Peru followed in Mexico. That the Aztecs were a people of great intelligence cannot reasonably be doubted; that they equalled their Toltec or Colhuan predecessors may be questioned. All the evidence goes to show that they went upward from the South, where they had existed as a semi-civilized tribe, and that, on reaching the seat of the Toltecs, they subjugated them, and availed themselves, to the best of their ability, of all the knowledge and attainments with which conquest brought them in contact. The beginnings of Central American civilization are buried in an antiquity which even to the Aztecs was remote. To measure it, we must bear in mind that forests grow upon the ruins of cities which were as inaccessible to the Aztecs as they are to the modern explorer, and that the science and art of which they are the monuments must have required many centuries to develop.

We have already glanced at a few of the ancient settlements on the Pacific slope. The remains found among the ruins of Yucatan and the entire sweep of country between the Sierra Madre and the Gulf and Caribbean Sea were also taken from the tombs. They are usually of a red paste, and present an endless variety of form and, if those found together are contemporaneous, an equally wide range of taste. Of the leading cities it is necessary to mention only Quirigua, Copan, and Palenque. Of these the first named is considered the most ancient, and Palenque the most modern. Copan is situated in the western part of Honduras, and many urns of the prevailing red color have been taken from the recesses of its arched tombs. At Palenque and Mitla a silico-alkaline glaze covers some of the specimens of gray earthen-ware. The shapes include grotesque images of deities and priests, and rudely modelled snakes and other animals. Found at places far apart, and presenting widely varying characteristics, these potteries admit of no classification, either by date or character.

In Central Mexico bricks were used alternatively with stone for facing the gigantic pyramidal mounds which there abound. The Tlascalans, who aided Cortez in his war upon Montezuma, burned their bricks.

At Palenque, farther to the south, the ceramic remains are of a higher artistic order. At the risk of invading the domain of archi-

tecture, we may mention the stucco or plaster figures with which the buildings were embellished. In other places were statuettes, one of which is described as "made of baked clay, very hard, and the surface smooth, as if coated with enamel." At Mitla we again meet with the phenomenon which we found so strange in Peru—the association of two entirely different orders of art, the most magnificent architecture and exquisite inlaid decoration with rude paintings of the figures of idols. The knowledge of coloring materials is nowhere better illustrated than in Yucatan, where red, yellow, blue, green, and brown appear in the wall-paintings. We find the pottery of Nicaragua compared with that of Mexico and Peru, but far more enthusiastic language was employed by the Spaniards in regard to what they saw. Cortez, in 1520, compared the pottery of Tlascala with the best of Spanish manufacture, and Herrera finds in Faenza ware the best parallel with that of Chulula.

Should farther explorations be made of the cities buried by the forests which have sprung up around the ruins we have indicated, a more connected history of the ceramics of the entire region may be written. At present one is liable to be lost in conjecture, and to launch into speculations such as that which very plausibly attributes to Central America a civilization the most ancient in the world.

CHAPTER III.

THE MOUND-BUILDERS.

Who were they? — Their supposed Central American Origin. — The place they occupy in the present History.—Recent Discoveries.—Pottery of the Lower Mississippi.—Deduction from Comparison with Peruvian.

In the central part of the North American continent, along the valleys of the Mississippi and the Ohio, from the Gulf of Mexico to the Great Lakes, the land was, in a very remote age, settled by a people akin to those of Mexico and Central America. Their name is now unknown, and to designate them they are, from the great mounds of earth which they have left, called "Mound-builders." Whence they

Fig. 403.—Mound-builders' Vases, from Southern Missouri. Centre piece, height, 9 inches. (Mrs. J. V. L. Pruyn Coll.)

came or whither they went is unknown. It is conjectured that they are the same people whom we have called Toltecs; that therefore they passed up from the south, and then, in course of ages, deserted their northern settlements on the incursion from the north-west of the Asiatic tribes known as North American Indians. It is surmised that they were then in part absorbed by the invaders of their lands, and that they in part sought refuge in the south, whence they had

issued centuries before. Their long absence had given them all the appearance of a distinct people. The evidence in favor of these several surmises may be condensed into the following form :—

Fig. 404.—Mound-builders' Vase. (Boston Museum of Fine Arts.)

That the mounds of North America were intended apparently for both religious and defensive purposes, and are practically identical with those of Central America ;

That their most populous settlements were in the southern part of the Mississippi valley, whence they passed upward until they reached and overspread the valley of the Ohio ;

That, according to old books and traditions, the Toltecs reached Central America from the north-east ;

That the reason given for the Toltecs deserting their settlements in the north-east, designated Huehue-Tlapalan, was the successive attacks of Chichimecs. We have already seen that the name Chichimecs was applied to all barbarians, and would in this case point to the North American Indians.

The question is an important one, since in the above view the Mound-builders would, as we shall hereafter see, form the link connecting the ancient people of South and Central America with the pottery-making Indians of our own time in New Mexico, Colorado, and Arizona.

Fig. 405.—Missouri Mound-builders' Vase. (Smithsonian Institution, 27,939.)

Now and again new discoveries are made which act as stimuli to fresh researches. A few months ago a terra-cotta tablet covered with written characters was reported to have been brought to light in Stoddard County, Missouri. It was said to bear the appearance of having been impressed with its undecipherable characters while the clay was still damp, to have then been hardened and glazed. A hint is all that is needed to originate speculation. We can turn to the terra-cotta tablets of Assyria and ask if there is

no connection between them and this Missouri relic, and if the partially submerged continent in mid-Atlantic of old writers is really mythical. Such a hint was dropped at the time of the discovery. It might possibly be better to compare the tablet with some of the inscriptions of Central America. It concerns us more at present to find that the Mound-builders used sun-dried bricks in rearing their giant structures. In the Lower Mississippi and along the Gulf these bricks appear to have been generally employed to strengthen the embankments. One in Mississippi is described as having a supporting wall of "sun-dried brick two feet thick, filled with grass, rushes, and leaves." On some appears the impress of human hands. As to their pottery, it may be said in general terms to compare well with that of the South Americans. In the Peabody Museum at Harvard, an extensive collection has been brought together. Some of the vases are admirably finished, and of good design. Others are quaintly designed, but somewhat rudely worked, and would appear to indicate that fictile art had little attraction for

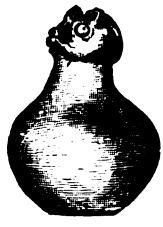


Fig. 406.—Mound-builders' Jar. (Boston Museum of Fine Arts.)

Fig. 407.—Mound-builders' Vases.

that people. We have seen numberless specimens showing a partiality even in the humblest vessels for imitations of animal and human forms. Examples of this and other kinds are given in the preceding illustrations.

From a comparison of the pottery of the Mound-builders with that

of South and Central America, the conclusion will be inevitably reached that the view already taken of the migrations of the former people is correct. Between the ruder works of the two peoples there is often a striking and close resemblance. To this class belongs a great deal of the pottery of the Mound-builders to be seen in collections. Among them we find nothing equal to the best Peruvian art; but in the details of decoration and the tendency of the potter toward certain typical forms, specimens may be discovered such as we might expect from a nation composed of emigrants, and far removed from the centre where the rudiments of their art were acquired.

CHAPTER IV.

INDIAN POTTERY.

Successors of the Mound-builders.—Opinion of Professor Marsh.—Pueblos descended from the Mound-builders.—Natchez and Mandan Tribes.—Pueblos of Colorado, etc.—Pottery found at El Moro.—Zuni.—Further Discoveries.—Immense Quantities of Fragmentary Pottery.—Corrugated Pottery of Colorado.—Painted Pottery.—Moquis of Tegua.—Modern Pueblos.—Trade in Pottery.—Resemblances between Potteries of South, Central, and North America.—Indian Pottery from Illinois.—Louisiana, and how Pottery made.—New Jersey Indians.—Tennessee.—Maryland.—Other Indian Tribes.

After the Mound-builders came the Indians. A distinction must be observed between the real North American Indians and those tribes in New Mexico, Colorado, and Arizona, of whose pottery specimens belonging to the present day have been obtained. It is clear that whether or not the Mound-builders and Toltecs were the same people, the former had no affinity of race with the Indians. They were undoubtedly an American race, while the Indians were as undoubtedly Asiatic, for whom no ancestry can with any show of reason be traced to the Mound-builders. Were the resemblance between the Indians and the nomadic tribes of Siberia beyond Behring Strait to be set aside as proving nothing, we should yet have the tradition common to many tribes pointing to a north-western source, to fall back upon in disposing of the question of the origin of the red man. We may, therefore, leave him out of farther present consideration, and turn to the successors of the Mound-builders.

Professor O. C. Marsh in a recent lecture touched upon this point, and at the same time hinted at a possible community of race among all the ancient peoples of America. "On the Columbia River," he said, "I have found evidence of the former existence of inhabitants much superior to the Indians at present there, and of which no tradition remains. Among many stone carvings which I saw, there were a

number of heads which so strongly resemble those of apes that the likeness at once suggests itself. Whence came these sculptures, and by whom were they made? Another fact that has interested me very much is the strong resemblance between the skulls of the typical Mound-builders of the Mississippi valley and those of the Pueblo Indians. I had long been familiar with the former, and when I recently saw the latter, it required the positive assurance of a friend who had himself collected them in New Mexico to convince me that they were not from the mounds. In a large collection of Mound-builders' pottery, over a thousand specimens which I have recently examined with some care, I found many pieces of elaborate workmanship so nearly like the ancient water-jars from Peru, that no one could fairly doubt that some intercourse had taken place between the widely separated people that made them."

According to this view the Mound-builders would have a relationship with the Peruvians on the one hand, and with the Pueblos on the other. When the Mound-builders retreated from their upper settlements, they maintained for some years their occupancy of territory along the lower Mississippi, before finally retiring toward the south. It is hardly possible that they disappeared *en masse* before the invaders, or that those lingering behind the main body should have been utterly exterminated. It would be difficult in that case to account for such exceptional Indian tribes as the Natchez and Mandan. Both tribes were skilful workers in clay. The Natchez, at the time when the West was first opened up by Europeans, over three hundred years ago, were making pottery comparable with that of Europe. They found the requisite clay on the banks of the Mississippi, and were acquainted with the use of color. The Mandans employed earthen-ware in their households, almost as extensively as any modern people. They baked pots in such a way that they were as capable of resisting the action of heat as the metal utensils of the present day. These were hung over the fire for purposes of cooking, and numberless other articles of earthen-ware were seen in their lodges. The Mandans were making pottery on the upper Missouri forty-five years ago, and probably continued doing so until a late date.

The Pueblos of New Mexico, Colorado, and Arizona present us with another problem, which can only be solved by one of two sup-

positions, either that they are the descendants of emigrants from Central America who degenerated through contact and association with Indians, or that they represent a remnant of the Mound-builders who sought in the west the security which the main body of their countrymen found in the south. We shall find additional reason hereafter for believing that if there was no extensive amalgamation of the races, the Indians at least borrowed some of the customs of their predecessors. If it be well understood that the ancient occupants of the territory extending from the mouth of the Mississippi northward and westward to Arizona had a common origin, and that their victorious barbarian successors were in certain districts modified by absorption, such facts as a similarity between the pottery of Louisiana or Illinois and Colorado need not be received with either hesitation or bewilderment. And, besides, the historical necessity for ascribing it to a specific age is thereby materially lessened.

The Pueblos, or Village Indians, of New Mexico and Arizona have left many interesting pieces of earthen-ware, and many others of the present time come from the same section. There is abundant proof that this entire district was inhabited at a very ancient date, and the relics of successive degrees of civilization are found in the ruins. El Moro, in New Mexico, was visited by Lieutenant Simpson in 1849, and afterward by Lieutenant Whipple. Pottery was found painted in zones and wavy lines, and occasionally highly polished. Following the same parallel westward, Lieutenant Whipple discovered other ruins to which no age could be ascribed, although some were clearly more ancient than others, indicating that the region must have been inhabited throughout a long series of years. More pottery was collected, brightly colored, and painted after patterns resembling those noticed at El Moro. The paintings occasionally assumed the forms of animals and insects. Still farther to the west, at Zuni, and at places beyond it in the same direction, the examples of the ceramic work of the early inhabitants multiplied. Sun-dried bricks were found to have been employed in building, and in addition to painted pottery, an older indented kind was met with.

An extended exploration of the same region, but somewhat farther north, was made in 1875, under the auspices of the United States Geological and Geographical Survey of the Territories. Mr. W. H.

Holmes and Mr. W. H. Jackson subsequently presented notices of the results of their examinations of the ancient ruins within an area of six thousand square miles, chiefly in Colorado, but partially also in New Mexico, Arizona, and Utah. Their joint evidence regarding the immense quantities of fragmentary pottery seen in the course of their explorations must create great astonishment. In speaking of the ruins of a village in New Mexico, situated on the Rio de la Plata, about twenty-five miles above its junction with the San Juan, Mr. Holmes says, "The soil was literally full of fragments of painted and ornamented pottery." Near the same locality, and while riding through a desert-like district, he observed "fragments of pottery strewed around," and "on the high dry table-lands, on all sides, fragments of pottery were picked up." Writing of the Montezuma cañon in Utah, Mr. Jackson says, "As the valley widened it was dotted in many places with mounds thickly strewed over with the ever-accompanying ceramic handiwork of the ancient people in whose footsteps we are following, and occurring so frequently and of such extent as to excite astonishment at the numbers this narrow valley supported." The same writer says, "All who have ever visited this region, which extends from the Rio Grande to the Colorado and southward to the Gila, have been impressed with the vast quantities of shattered pottery scattered over the whole land, sometimes where not even a ruin now remains, its more enduring nature enabling it to long outlive all other specimens of their handiwork."

Fig. 408.—Ancient Corrugated Pottery of Colorado.

The presence of such immense quantities of fragmentary pottery can possibly be explained upon the hypothesis that the vessels were liable to fracture when exposed to the fire, and that those cracking under the heat were thrown away when taken out of the primitive and open kiln.

The specimens obtained, both fragmentary and entire, give abundant opportunity for studying the processes and decoration of these old-time potters. As illustrating the fertility of their talent for shaping and ornamenting their wares, Mr. Holmes observes that on one occasion, when encamped in the Mancos Cañon, he found, within a space of ten feet square, fragments of fifty-five different vessels, and adds that, "in shape these vessels have been so varied that few forms known to civilized art could not be found." The clay varies according to locality, in some cases being of an apparently fine quality mixed with sand and shells, and in others coarse and more friable. All this old pottery was made by hand, and fired, although no remains of kilns have been discovered.

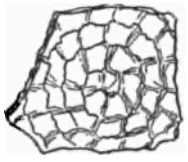


Fig. 409.—Fragment showing Manner of Making Corrugated Pottery.

Fig. 410.—Ancient Corrugated Pottery, from Utah.

The smaller pieces, such as cups and jars, are usually covered with a peculiar thin, hard, and smooth glaze or enamel, and then painted. The larger pieces, which apparently answered the purpose of the Egyptian amphora, present a rough, corrugated surface, are seldom glazed and never painted. A specimen of the latter class, found among the *débris* in one of the cliff-houses of the Mancos in Colorado, is given in the illustration (Fig. 408). Its rough exterior is to be attributed to the process of making. The potter began by drawing the clay into strips, and then commencing at the bottom, wound the strips spirally and pressed each layer down upon that below it, indenting the outside with a stick or with his thumb. The illustration (Fig. 409) may serve to elucidate the method of construction. The in-

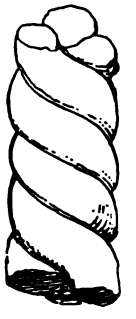


Fig. 411.—Handle of Twisted Clay.

Fig. 412.—Pottery Ladle.

side is perfectly smooth, and so well are the strips worked together, that they show no division on fracture. An attempt was made at decoration or variety, by running the strips a few times round without indenting them and by attaching scrolls or spirals immediately below the neck. All the pottery of this description is ancient. A jar of similar construction to the above, but of a better shape, was found in Epsom Creek, Utah (Fig. 410). The fragment of a handle (Fig. 411) would appear to indicate that the ancients were familiar with the well-known cable pattern of modern porcelain manufacturers. It is made by twisting together three rolls of clay. A ladle (Fig. 412) and what seems to have been a pipe (Fig. 413) will tend to show farther the extent of the resources of the aboriginal potters of the west.

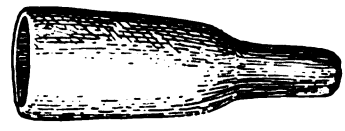


Fig. 413.—Clay Pipe.

Fig. 414.—Painted Mug.

In the specimens of their painted pottery we have the best means of judging their art. The painting is generally black laid upon the white enamel or glaze; and however the color was obtained, it was very durable. Although the fragments, as we have seen, have lain on the ground exposed to the action of the weather for at least several centuries, the color, in very few cases, shows any symptom of decay. In one piece the white ground has actually worn away, leaving the black decoration in relief. The designs show a vast amount of ingenuity on the part of the artists. They are nearly all modifications of the fret and scrolls. A very common style (Fig. 414) consists of a series of enclosed squares, the alternate borders being composed of crossed lines and straight lines, and having undecorated bands between. A remarkably fine specimen (Fig. 415), both

Fig. 415.—Pitcher, from a Grave on the San Juan.

in shape and the simplicity of its decoration, was taken from a grave on the banks of the San Juan, near the mouth of the Mancos. Its excellent form, and the throwing of the classical fret round the widest part of the body, bear witness to an artistic sentiment of considerable refinement. The artists of the time appear to have chiefly directed their attention to tasteful combinations of lines in triangular, rectangular, and other odd forms, in which the two latter are united or conjoined with straight bands of color. A fine specimen (Fig. 416) was found in a heap of rubbish at a cave ruin on the De Chelly. Its perfectly rotund form argues a skill in manipulating the clay which one can hardly conceive possible without the assistance of the wheel. For the purpose of farther illustrating the decorations and shapes, a few fragments are presented in a restored

Fig. 416.—Small Jug, from Ruins on the De Chelly.

Fig. 417.—(Entire).

Fig. 418.—(Restored).

Fig. 419.—(Restored).

Fig. 420.—(Fragment).

and extended form (Figs. 417–420). In nearly every case the decoration is on the inside of the vessel, sometimes covering the entire surface, but more frequently taking the form of a band round the lip; when it appears on the outside, it generally consists of a narrower band (Fig. 422). It will be observed that, so far, we have not met

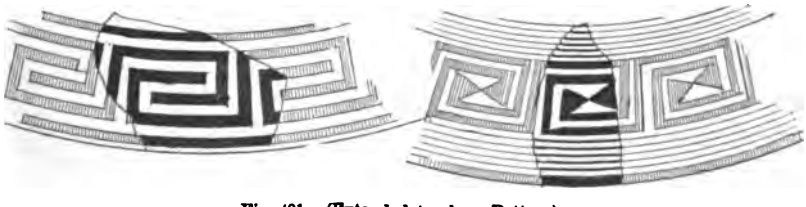


Fig. 421.—(Extended to show Pattern).

with a single attempt at decoration by painting animal or floral forms. Mr. W. H. Jackson says that only one fragment has been found exemplifying such a style (Fig. 423). It was found in the upper cañon of the Montezuma, and has the figure painted on the inside. A rudely modelled frog on the outside of a fragment of a cup (Fig. 424) is from the same district. In this case the ornamentation is in relief on the outside.

Fig. 422.—Outside Decoration of Ancient Pottery.

It would be interesting to inquire if the modern Moquis of Tegua are the degenerate descendants of the ancient inhabitants of the cave-dwellings and cliff-houses of the valleys of the San Juan and its tributaries. The probabilities are in favor of such a supposition, just as the semi-civilized dwellers in modern Zuni are the descendants of the old Pueblos. There are evidences of decay scattered throughout the entire region.

Fig. 423. — Fragment of Pottery, with Painting of Animal.

In architecture the inhabitants of the present day are certainly inferior to their old-time predecessors, and in the ceramic art there is a similar decadence. A very peculiar and altogether exceptional piece (Fig. 425) was found by Mr. W. H. Jackson among the Moquis of Tegua, about which its possessors could give him no information. He concluded that it had been made at Zuni by the Pueblos, and a color of probability is lent to this supposition by the fact, previously noted, that the Pueblos of Zuni make use of insect and animal forms in decorating their pottery. The specimen mentioned is evidently of modern manufacture. The upper part is white, the lower red, and the figures are red and black. More nearly resembling, although far inferior to, the ancient works is a piece (Fig. 426) made by the Moquis of Tegua. The decoration is after the ancient type, but more crowded and complicated, and covers both the inside and the outside of the vessel. It is a fair example of the modern work, of which two

Fig. 424.—Fragment of Pottery, with Frog in Relief.

Fig. 425.—Painted Water-vessel, found at Tegua.

further examples are given (Figs. 427 and 428).

Fig. 426. — Pottery of the Moquis.

The modern Pueblos are exceptional both for the comparative excellence of their work, and by reason of the fact that they make pottery for the purposes of trade, as well as for their own use. This appears from Gregg's work, published about twenty-five years ago, entitled "Commerce of the Prairies." The author says: "They manufacture, according to their aboriginal art, both for their own consumption and for the purpose of traffic, a species of earthen-ware not much inferior to the coarse pottery of our common potters. The pots made of this material stand fire remarkably well, and are the universal substitutes for all the purposes of cookery, even among the Mexicans, for the iron castings of this country, which are utterly unknown there. Rude as this crockery is, it nevertheless evinces a great deal of skill, considering that it is made entirely without lathe or any kind of machinery. It is often fancifully painted with colored earths and the juice of a plant called *guaco*, which brightens by burning."

Fig. 427. — Modern Pottery, from Zuni. (United States Geological Survey.)

To revert for a moment to Professor Marsh's remarks, there appears to be abundant reason for considering a great proportion of the old pottery of America as belonging to one class, and that the old inhabitants were originally of one race. The corrugated ware which we first found in Colombia reappears among the Pueblo Indians, and has also been found in Utah. The Indians made it in New Jersey, Penn-

Fig. 428. — Modern Moqui Pottery, from Zuni. (United States Geological Survey.)

sylvania, Delaware, Georgia, Florida, and District of Columbia, having probably acquired the art from their predecessors. Professor Rau says it was widely known in North America, and Mr. Hartt shows the wide spread of the practice of coiling throughout South America. The latter states upon authority that the tribes on the Aragnaya River all coil, using the hand, water, and a bamboo trowel. The same process is found among the tribes of the Orinoco section. The red and dark brown painted ware we have traced from Peru to Nicaragua and thence to the Moqui settlements. The Moquis of Arizona make great numbers of the shallow ladles with short handles terminating in animals' heads, similar to those of Peru. We have seen the Brazilians and Moquis both using vegetable colors on pottery, and it is probably only our ignorance of Peruvian and Central American methods which hinders our tracing these processes back to antiquity. It is difficult upon any other hypothesis than that of a community of race to explain these facts. We have said that the Moquis may be descendants of Mound-builders seeking safety in the west. They may also have come directly from the south, and having passed the country lying between the Gulf of Mexico and the Sierra Madre, have reached the Colorado River, along the upper affluents of which their settlements extend.

An interesting discovery was made some years ago by Mr. Charles Rau on the Cahokia Creek in Illinois, in the rich alluvial strip of land known as the "American Bottom." He there found the place where pottery had been made by some former inhabitants, and saw the clay-pit, and the heaps of shells to be ground or broken and mixed with the clay. The vessels were all round-bottomed, and do not appear to have differed much in shape from those of the San Juan Valley. The painting deserves particular notice. It was laid upon the outside so as to cover it, and sometimes on both sides, and in either black, dark brown, or a beautiful red, only one color being used on each article. "It is evident that the coloring preceded the process of baking, and the surfaces thus coated are smooth and shining, the paint replacing to a certain extent the enamel produced by glazing." Covering the entire surface with one color does not suggest much ingenuity, but on the pieces where incised lines and indentations form the decoration, there are fuller evidences of artistic feeling. The lines were either

drawn straight round the vessels, or formed zigzags or figures of greater or less simplicity. Without insisting upon any relationship between the potters of the Cahokia and the Mound-builders, Mr. Rau believes the pottery he found to be equal to that taken from the mounds of the Mississippi valley. Some of the unpainted vessels were made in basket moulds, and other remains, such as the fragment of a toy canoe, show that modelling was practised to some extent. The age of this pottery is left to conjecture.

The same writer quotes from Dumont, who wrote about a century and a quarter ago, a description of the method of making earthenware adopted by the inhabitants of the large tract of country then called Louisiana. The passage is here given in full: "After having amassed the proper kind of clay and carefully cleaned it, the Indian women take shells which they pound and reduce to a fine powder; they mix this powder with the clay, and having poured some water on the mass, they knead it with their hands and feet, and make it into a paste, of which they form rolls six or seven feet long and of a thickness suitable to their purpose. If they intend to fashion a plate or a vase, they take hold of one of these rolls by the end, and fixing here with the thumb of the left hand the centre of the vessel they are about to make, they turn the roll with astonishing quickness around this centre, describing a spiral line; now and then they dip their fingers into water and smooth with the right hand the inner and outer surface of the vase they intend to fashion, which would become ruffled or undulated without that manipulation. In this manner they make all sorts of earthen vessels, plates, dishes, bowls, pots, and jars, some of which hold from forty to fifty pints. The burning of this pottery does not cause them much trouble. Having dried it in the shade, they kindle a large fire, and when they have a sufficient quantity of embers, they clean a space in the middle, where they deposit their vessels and cover them with charcoal. Thus they bake their earthen-ware, which can now be exposed to the fire, and possesses as much durability as ours. Its solidity is doubtless to be attributed to the pulverized shells which the women mix with the clay." It will be observed that this is practically the same method of construction described by Messrs. Jackson and Holmes as existing in the San Juan valley.

In a valuable paper upon "The Stone Age in New Jersey," by Dr. C. C. Abbott, of Trenton, and published in the report of the Smithsonian Institution for 1875, much interesting information is given of the Indian pottery of that State. Dr. Abbott describes a small round vase with flaring rim, decorated before firing with lines roughly made with a pointed stick. He then gives a caution which it is well to bear in mind when examining the pottery comprehensively styled Indian. The vase is in size similar to those found in western mounds, but less carefully ornamented. Difference in decoration is not, however, always a safe test to apply in order to distinguish the pottery of the Mound-builders from that of the Indians. "In gracefulness of outline the New Jersey vase is the equal of that of the Mound-builders, while we have seen a drawing of a large vase found in Vermont which exceeds in elaborateness of detail any figured by Messrs. Squier and Davis. The Mound-builders were never inhabitants of what is now known as New Jersey nor of the State of Vermont, but pottery is sometimes found in these sections the equals in some instances of the pottery of the west in style of decoration, while in all cases it is as hard and durable." A pipe, the bowl of which slopes outward and with the underside of the stem flattened, is also described by Dr. Abbott. It is made of fine yellow clay. A fragment of another pipe with a quadrangular bowl was made of the paste generally used by the Indians, a mixture of clay, mica, and shells. Some of the fragments of pottery are curiously marked with dots and lines. In one case a spear of grass had been employed to make bead-like studs in rows on the surface.

A discovery was made a few years ago in Tennessee, by which we learn something of the Indian processes (Dr. J. F. Wright on "Antiquities of Tennessee," Smithsonian Report, 1874). It consisted of an excavation six or eight feet in diameter, and four or five feet deep, and was apparently a kiln or oven for baking pottery. Unwrought clay, charcoal, fragments of pottery, and pieces of bark more or less charred were found among the sand in the excavation. The pottery was peculiarly marked on the *inside*, and investigation led to the conclusion that the vessels had been moulded round an interior core of beech bark, the corrugations of which corresponded exactly with the impressions on the pottery. The Maryland Indians (Paper by O. N.

Bryan, Smithsonian Report, 1874) are thought to have baked some of their pottery in nets.

Many others of the Indian tribes practised the fictile art, very few, so far as is known, being entirely ignorant of it. Moulding in clay was not, however, a practice likely to commend itself or to offer any attractions to the nomadic red man, and it fell into desuetude, whenever the introduction of metal utensils rendered its continued pursuit not absolutely necessary. Some of the tribes which followed the buffalo possibly never engaged in it, but left the practice to their corn-raising brethren (Dr. W. E. Doyle on "Indian Forts and Dwellings," Smithsonian Report, 1876). The exceptional tribes of New Mexico and Arizona, which cannot, as already pointed out, be identified with the North American Indians, are chief among the few which still continue to make pottery. We have seen that they adhere in a great measure to the ancient shapes and primitive decorative patterns. The fact of chief importance in connection with the old potters of the West and the processes to which they resorted is their employment of a glaze. It is considered by Dr. Emil Bessels as the most striking peculiarity of the pottery found near the ruins. It is regular, very hard, sometimes opaque and whitish, at others transparent and tinged with blue. Neither this glaze nor the colors have been accurately analyzed, but of the latter the reddish-brown and brown are undoubtedly mineral, derived from iron and manganese. The black was probably an organic substance, such as charcoal made into a pigment by being mixed with fine clay.

CHAPTER V.

UNITED STATES.

The Future of America.—Obstacles in the Way of Progress.—Commercial Conditions Illustrated by Tariff.—Expense of Artistic Work.—Lack of Public Support.—American Marks.—Misrepresentation of American Wares.—Materials.—Early Use in England by Wedgwood, etc.—Cookworthy and a Virginian.—Native Use of Clay.—New Jersey.—Value of Clay Deposit Illustrated.—American Kaolin.—Vague Use of Word.—Analysis.—Opinions of American Deposits.

We now approach the potters and artists of the present day. That there is a brilliant future in store for the ceramic art of America may be inferred from the rapidity with which it has been pushed forward to the stage it has already reached. With a limitless wealth of material at his command, and gifted with enterprise, originality, and taste, the American artist can look confidently forward to taking his place beside the best the world has produced.

And here it may be profitable to consider some of the obstacles in his way. The first of these is commercial. With a high protective tariff the home manufacturer is barely enabled to compete with the foreign producer in plain domestic wares. The import duty does not cover the greater expense of working in this country. Statistics show that in the items of labor and material the American manufacturer, as compared with the European, labors under a disadvantage of about one hundred per cent. In works of art this disadvantage is vastly increased. The makers of the tariff draw a distinction of only ten per cent. between white granite and decorated porcelain, or, in other words, they give the makers of artistic porcelain protection greater by twenty-five per cent. than that accorded the makers of granite. A distinction to the extent of five per cent. is drawn in the tariff between undecorated and decorated porcelain and parian. Art work, therefore, is benefited to the extent of one-ninth more than plain goods of the

same material. It need not be pointed out that art is thus protected less than workmanship, since the proportionate cost of artistic work, as compared with skilled and unskilled labor, is far greater here than in Europe. As a consequence, there is little to induce manufacturers to turn to art unless some profit can be drawn from the reputation which it brings. It is not intended to discuss here the question of protection *versus* free trade. The tariff is merely brought forward to illustrate the difficulty of rearing up something worthy of being called an American art. To demonstrate this by example, here (Fig. 429) is a porcelain plate made at Greenpoint on a challenge. It is a copy of a plate now in the possession of Mr. George Such, of South Amboy, by whom it was purchased at the sale of the effects of Louis Philippe. The original is from Sèvres, and is decorated chiefly in gold. The Greenpoint copy was made in order to test the question whether it were altogether unreasonable to entertain the hope that American decoration might not—at some future day, of course—equal that of Sèvres. Those who saw both had some difficulty in distinguishing the original from the copy, and in some instances could not do so without examining the ware as well as the decoration. The copy is a remarkably fine specimen of decorative art, and would lead us to entertain great expectations regarding the work of the artist when his skill is devoted to original designs.

Fig. 429. — Greenpoint Porcelain. Sèvres Decoration.

The challenge made was, therefore, fully answered. Should it be asked why, under these circumstances, similar work should not be done regularly, the answer is simple. The existing state of the market, in so far as the demand for American artistic work is concerned, is such that prices will barely bring back the actual cost of production. Toward lessening that cost the efforts of manufacturers must be directed; and in connection with this subject a remark may be quoted, made by President T. C. Smith at the Convention of the Potters' Associa-

tion: "Foreign clays can be put down in New York tide-water cheaper than you can buy Pennsylvania clays, by about fifteen per cent."

The great expense attending the production of works of art is not, however, the only drawback with which the American manufacturer has to contend. It may, in fact, be said that the impediments to the rapid advancement of ceramic art in America have not yet been touched upon. They consist of neither the lack of capital, enterprise, experience, nor skill.

It is a singular fact that while native manufacture advances with rapid strides, and finds on all sides a public ready to give it a hearty reception, native art must force its way to recognition. Its first honors must be won abroad. It must bear a foreign stamp to be accepted at all in the home of its birth. The cause of this is not far to find. The American market is a good market, and is so regarded by the world at large. Foreign artists send their works to it, and are sure of a welcome. Competition by a native superior is thereby made difficult; by an equal almost impossible; by an inferior, an absurdity. The foreign competitor comes branded as a genius, and home critics hesitate about issuing a verdict in favor of a countryman. They appear to have a lack of confidence in their own judgment, and would rather endorse or modify another's opinion, than take the responsibility of issuing an independent one of their own. Patrons suffer from a similar diffidence. On the one hand they see certainty, on the other uncertainty. On this side is the work of one who has won the praise of all Europe; on the other, nothing but that of one who makes a direct appeal to their own discrimination.

Under such conditions it is difficult for an art to struggle into existence. French art is to a Frenchman the finest and best the world ever saw. Englishmen support English art because it is their own. They are satisfied with it, if all the universe should wonder what it is they nurse and cherish. It is good to them, and that is enough. If their own opinion should change, it will then have become a curiosity, and therefore doubly worthy of their care. American art may be good, even equal to the best, but unfortunately it is American. Receiving no notice, the artist loses even the benefit of criticism, and concludes that his own people compliment themselves by believing that no work of art can be produced among them.

This may appear overdrawn, but the facts are eloquent. It has been said that, as a rule, Americans take a pride in their own manufactures. That of pottery is an exception. Almost anywhere granite-ware can be seen bearing as a mark the royal arms of England, with the motto in full—in this case very appropriately—*honi soit qui mal y pense.* It is a curious mark for an American potter, or at first sight seems so. The ware may have been made at Trenton, or anywhere else in America, and the explanation is simple. The dealers will not buy it without that mark, and first suggested its use as they would order a certain style of decoration. Inquiry among the dealers brings out the whole truth. Their customers look for the English mark, and finding it, are satisfied. After this we need not inquire if the English granite-ware is superior to the American. There is no question of superiority or inferiority, but only one of the potency of a name.

Again, in the matter of porcelain, that made and decorated in this country is sold every day for French, German, or English. It is, in fact, "all things unto all men," according to the requirements of the purchaser and the ingenuity of the dealer. In some cases it is bought plain, and decorated, after it leaves the factory, in the various foreign styles. No objection is ever made to its appearance, its finish, purity, durability, or decoration, only it has the misfortune to be American, and its parentage must be concealed at all hazards, and even in spite of the manufacturer's mark. Here, again, there is no question of quality, but only one of the effect of a name.

To discuss the objectionable part of misrepresentation is away from the present purpose, and the deduction from these facts is the only thing now requiring to be made. They argue that upon their merits there are wares produced in America which, if made anywhere else, would cope with the corresponding qualities now imported.

For artistic works the struggle is still harder. In their case the test is not practical, but critical. They demand taste, and not use, to be appreciated; and, as a consequence, very rarely receive the recognition to which they are entitled. Art grows slowly, and, especially in a country so largely interested in commerce as America, is long in reaching its maturity. Looking at it aright, there is all the more reason why, when it makes its appearance, it should be received with

warmth and treated with deferential respect, in order that its growth may be hastened and not retarded. America is, in this respect, an exception to the nations of the earth. The question may be looked at from various points of view. The patriotic course would certainly be to encourage, and not by neglect to stifle, a budding art. If the art be poor, it stands in all the greater need of encouragement, in order that, for America's sake, it may rise to an equality with that of other countries.

In France, Germany, Prussia, Russia, Italy, China, and England, the ceramic art received the support of governments and wealthy patrons, and the result has been recorded. In America such support is neither given nor required. What is chiefly needed is appreciation. In the Republic the people are the rulers and patrons. In their hands are both power and wealth, to be used in the rearing of art, surely with as much discrimination and judgment as in the monarchies of Europe and the Orient. We might say from another standpoint that the earliest works in any branch of the arts are those of the highest value in the future. They reveal to the historian the foundations of the eminence from which he views the past, and that eminence America will undoubtedly attain. The skill now being developed, and the taste now being cultivated, are the legacy of the present generation to the next, and future attainments will be but the interest of present struggle and endeavor.

These considerations, however, are, in a certain sense, extraneous. The American artist and artist-manufacturer demand no exceptionally favorable position, nor that their works shall be viewed in any other than a fairly critical and commercial light. Prejudice in art is the end of criticism; prejudice in commerce is suicidal.

The materials for making every kind of ware are found in different parts of the country, and the industry is for that reason well distributed. As early as 1766 American clays were imported into England, captains on their return voyages often taking samples from the Carolinas, Georgia, and Florida. Many of these reached Wedgwood, who, in allusion to one of them, says, "It will require some peculiar management to avoid the difficulties attending the use of it." He elsewhere avows his willingness to make all necessary experiments with American clays. These trials turned out well, as we find him

making arrangements for a regular supply from Ayor, in the country of the Cherokees, about three hundred miles from Charleston. He desired a monopoly by patent or parliamentary grant, but ultimately sent out an agent, of whom we learn nothing more, except that he began his journey to the Cherokee deposit. In October, 1768, a cargo of Carolina clay reached Liverpool, and the trade became general both in the Cherokee and Pensacola clays, Wedgwood apparently giving the preference to the latter. What use he made of it is not precisely stated. More interesting is the fact that America contributed to Cookworthy's invention of natural porcelain in England in 1760. It is said that an American showed Cookworthy, in 1745, specimens of both kaolin and petuntse found in Virginia, and samples of the ware made from them. Cookworthy's own account of it is slightly different, inasmuch as he only mentions having seen specimens of the manufactured china. He says: "I had lately with me the person who has discovered the china earth. He had with him several samples of the china ware, which I think were equal to the Asiatic. It was found on the back of Virginia, where he was in the quest of mines; and having read Du Halde, he discovered both the petuntse and the kaolin. It is this latter earth which he says is essential to the success of the manufacture. He is gone for a cargo of it, having bought from the Indians the whole country where it rises." Mr. Cookworthy was not favorably impressed by the gentleman from Virginia, of whom no more is heard. Nor does it appear that he returned to England with the cargo, which he thought he could land there at about sixty-five dollars per ton. There is one purely American feature of the story, and that is the purchase from the Indians of "the whole country where it rises."

The final practical effect of Mr. Cookworthy's association with this American was the foundation of the English porcelain industry. The acknowledgment is thus made in the catalogue of the Museum of Practical Geology: "The great advance of the porcelain manufacture in England is due to the discovery of the kaolin of Cornwall by William Cookworthy, of Plymouth, about 1755. He apparently had his attention directed to the subject by an American, who showed him samples of china-stone and kaolin from Virginia, in 1745." One hundred and thirty-two years later, the country from which the sug-

gestion came is importing kaolin from that which received and acted upon it.

New Jersey is the only State of the clay deposits of which we know much historically or have any precise information. The facts here presented are gleaned from a report issued by the State Geological Survey, and will give an idea of the value of our native clays. It is stated, on the authority of Mr. Samuel Dally, of Woodbridge, that the clay there was known to the soldiers before and during the Revolution, and that, when stationed at Perth Amboy, they called it *fuller's-earth*, and used it for cleaning their buckskin breeches. In 1800 the South Amboy clay was dug for making stone-ware, and after 1812 the use of New Jersey clays for fire-bricks and other refractory materials began. Soon after 1816, Mr. Price was shipping fire-clay from Woodbridge to Boston, to be used in making fire-bricks. About 1820, Mr. Jacob Felt, of Boston, bought fifty tons of Woodbridge clay from Jeremiah Dally, at twenty-five cents per ton, and so started a regular trade, which was maintained for many years. The Woodbridge deposit is very rich, and is now extensively worked, the clay being suitable for different purposes. It can be used as fire and pipe clay, or for white-ware, and also meets the requirements of paper-makers. In 1835 the same clay was in use by Howell & Bros., Philadelphia, for satining wall-paper. Gordon, in his Gazetteer (1833), speaks of a discovery of extensive beds of white pipe-clay between Woodbridge and Amboy; but even in 1840 its extent and uses were not fully known. Coming down to 1855, we find clay for fifty millions of fire-bricks being taken from the pits at Woodbridge, Perth Amboy, and South Amboy; 2000 tons for the paper-makers; 2000 tons for making alum, and a large quantity for fine pottery. In 1868 the aggregate production had doubled. In 1874 265,000 tons of fire-clay were dug, and brought, at an estimated average price of $3 50 per ton, $927,000; 20,000 tons of South Amboy stone-ware clay, at $4 per ton, brought $80,000. These figures are sufficient for the formation of an opinion of the worth of a good clay deposit.

With regard to the materials to be obtained in this country, it may be premised that, from a vague use of words having an otherwise definite meaning, it has been difficult to obtain satisfactory information upon some of the most interesting points. The following extract is

taken from a report upon the pottery industry, by the secretary of the United States Pottery Association to the Industrial Directory for 1876: "The clay, or kaolin, mines of the United States have been wonderfully developed the past few years. Rich and inexhaustible beds of fine kaolin are now being worked in the following States: Delaware—three extensive deposits; Pennsylvania—three very fine mines are worked, and the whole of Chester County abounds with as fine a deposit as England can boast; Illinois, Missouri, and Indiana can boast of rich deposits also now being worked; New Jersey abounds in ball-clay, common white-ware clay, and all kinds of fire and retort clays; while Maine, Connecticut, and Maryland furnish felspar in abundance, and Pennsylvania and Maryland endless quantities of quartz or silica. Every section of the country, from the Rocky Mountains to the State of Maine, has raw material in great variety, as yet unimproved." In view of these statements, it may appear singular that the Union Porcelain Works at Greenpoint are consuming large quantities of imported kaolin. To explain this, we must believe the word kaolin in the above extract to be applied to the native clay as found, and before it is freed from any impurity. This belief is supported by M. Ch. de Bussy, one of the French members of the International Jury at the Centennial Exhibition. In his report he says: "Les matières premières pour la poterie sont abondantes aux États-Unis. Des dépôts de kaolin sont exploités dans un grand nombre d'États, principalement dans ceux de New Jersey, Delaware, Pennsylvania, Illinois, Georgia. Plusieurs des matières désignées sous le nom de *kaolin* ne sont pas toutefois le produit de la décomposition du feldspath *in situ;* ce ne sont à proprement parler, que des argiles blanches qui ne peuvent servir à la fabrication de la porcelaine que par leur association à du feldspath et du quartz." He then goes on to say that the kaolin is not prepared with sufficient care, and that for that reason the Greenpoint factory uses for its table porcelain a great deal of English kaolin.

Another reason is that the English clay can always be depended upon, and that the native, for lack of proper preparation, cannot. The general conclusions of M. Ch. de Bussy are confirmed by investigations made here. The above mentioned report by the Geological Survey, embracing all or the greater number of the clays of the State

of New Jersey, gives much valuable information, and farther substantiates our view. The following table has been compiled from the data there given, for the purpose of comparing the imported kaolin with the New Jersey clays, and thus arriving at the truth upon this point:

	Cornwall, England.	Cornwall.	Standard Kaolin.	Redruth, Cornwall.	Perth Amboy.	Staten Island.	Washington.
Silica	46.32	46.29	46.00	28.40	77.10	92.70	89.40
Alumina	39.74	.....	40.00	24.11	17.10	5.70	7.80
Water	12.67	.....	13.00	7.90	4.50	0.70	2.60
Potash	.....	.....	.....	0.96	1.30	0.35	.....
Lime	0.36	0.50	0.33	.....	.....	.....	.....
Magnesia	.....	.....	0.33	.....	.....	.....	.....
Iron	0.27	0.27	0.33	0.79	.....	.....	.....
Titanic Acid	.....	.....	.....	0.20	.....	.....	.....
Sand	.....	.....	.....	37.80	.....	.....	.....
	1	2	3	4	5	6	7

No. 4.—This clay is used with others to give toughness to vessels to be exposed to sudden changes of temperature.

Nos. 5, 6, and 7.—In these the silica and sand are added together, and the alumina includes the iron.

In the selected clays of New Jersey the great preponderance of silica at once attracts attention, and is to be attributed to the admixture of sand, which averages about seventy-five per cent. of the mass. Whenever the silica is present in a greater amount than the standard percentage given in the table, and particularly when it appears in the form of sand, the clay becomes less fit for making fine ware. The body is proportionately coarser. The Jersey clay, therefore, although locally dignified with the name of kaolin, cannot be used by the manufacturer of porcelain.

The deposit has been made under less favorable circumstances than that of south-western England. There nature has to a great extent performed the washing process, by carrying the decomposed felspar along a valley and dropping the impurities and coarser ingredients by the way. The artificial process is simply the counterpart of that of nature. In New Jersey the clay and quartz-sand are in some places deposited together, and are then miscalled *felspar;* in others they have been partially assorted, the fine particles being deposited in one bed, the quartz-sand in another. An analysis of three specimens

of this "felspar" shows the following ingredients, the decrease of sand and increase of alumina being especially noteworthy:

Silicic Acid and Quartz-sand	75.88	74.00	77.40
Alumina	18.95	17.55	16.07
Water	4.90	6.30	4.30
Iron	0.49	0.54	0.53
Magnesia	.....	.....	0.25
Potash	0.15	0.12	0.15
Soda	0.21	0.21	.....
Titanic Acid	.....	0.90	.....
	100.58	99.62	98.70

These tables will explain the language of the report, that the New Jersey "kaolins" are "simply mica-bearing sands," and that the felspar "is more properly a kaolin." "The so-called kaolin is a micaceous sand, consisting of fine-grained white quartz-sand, mixed with a small and varying percentage of white mica, in small flakes or scales, and a very little white clay." In other words, there is no New Jersey clay entitled to the distinctive name of kaolin, and the inveterate misapplication of the word illustrates the difficulty to be encountered by the inquirer into this matter. M. de Bussy, for example, in the passage quoted, falls very naturally into the error of classing New Jersey with the "large number of States in which deposits of kaolin are found." His mistake, and the confusion of terms which led to it, makes it all the more desirable that something definite should be known of the deposits in other States.

As to the deposits of Pennsylvania and the West, there appears to be considerable difference of opinion, but the existence of clay for making every kind of ware, from drain-pipes to porcelain vases, is beyond all doubt. A partial analysis of Georgia kaolin showed that in the leading ingredients of silica and alumina it approached very nearly the standard given in the table. The whole question appears to be one of analysis, preparation, and experiment, so that when the manufacturers buy clay for a special purpose, they can depend absolutely upon what they obtain.

Mr. T. C. Smith, of Greenpoint, is so confident of the richness of this country, that he believes kaolin of the best quality exists in abundance, and that it will in course of time be an article of export.

At the Centennial Exhibition, Mr. Laughlin, of East Liverpool,

Ohio, appeared as one of the representatives of Western enterprise. He thinks the varieties of clay in America outnumber those of all the rest of the world. At East Liverpool all the varieties are used. A new clay found in Missouri, and expected to be very valuable, has recently been added to the list. It gives the paste a peculiar softness of color, and lends additional beauty to the manufactured ware. Mr. Laughlin said nothing of exporting clays, but thought it highly probable that European capital would be brought into this country to work the inexhaustible materials which it contains for every kind of ware. What are wanted to render these kaolinic treasures available are the enterprise, skill, and capital to prepare and compound them. It is, at least, suggested that this is the greater part of the difficulty, and that if the peculiar qualities of each deposit were more precisely known, if the crude material were skilfully cleaned, and experiments were systematically conducted for the purpose of discovering the combinations necessary for making a true and regular porcelain clay, there would be no necessity for going away from home for any ingredient of the requisite porcelain paste. This supposition is borne out by the fact that a few years ago a number of American potters attempted to make porcelain with kaolin brought from the South, and in every instance failed. Others have since met with success more or less complete. Böttcher did not succeed on his first attempt, and, in fact, it was not until several years after his death that the best Dresden ware was made. In a similar manner, experiment alone can enable American potters to avail themselves of the undoubted wealth of their own country. Meantime, it is noteworthy that the deposits of all kinds now being worked are of sufficient value to maintain a number of mills for levigating, drying, and grinding. Several are on the Susquehanna, in Maryland; at East Liverpool, Ohio; at Fort Ann, New York; on the Connecticut River; and at Trenton, New Jersey.

POTTERY.

Dependence upon England.—Wedgwood's Fears of American Competition.—Norwich.—Hartford.—Stonington.—Norwalk.—Herbertsville.—Sayreville.—South Amboy.—Philadelphia.—Baltimore.—Jersey City.—Bennington.—New York City Pottery.—Trenton.—Present Extent of Industry.—Trenton Ivory Porcelain.—Terra-cotta.—Beverly.—Chelsea.—Portland.—Cambridge.

The few known incidents in the development of the art may be stated as nearly as possible in chronological order; and, to keep the thread of the narrative unbroken, reference may at the same time be made to the early and unsuccessful attempts at establishing the manufacture of porcelain in conjunction with that of pottery. During the eighteenth century the records open to our inspection, especially the journals of the day, make occasional references to imported wares, chiefly of English manufacture. Mr. Marryat, in treating of English pottery, refers to the popular indifference in England to the advantages of crockery over pewter dishes and wooden trenchers. He then says, "The introduction of stone-ware in the sixteenth century, and of Oriental porcelain in its imitation delft-ware shortly afterward, and, lastly, the Staffordshire earthen-ware, gradually expelled pewter dishes and plates, though it is but recently they have been entirely dismissed." Popular usage in America followed a parallel course, and there are many places at which the substitution of crockery for wood and metal was made within the memory of persons now living. Mr. J. F. Watson, in his "Annals of Philadelphia," describing the furniture of a room of presumably about a century ago, gives some interesting particulars in regard to this subject. "One corner," he says, "was occupied by a beaufet, which was a corner closet with a glass door, in which all the china of the family and the plate were intended to be displayed for ornament as well as use. A conspicuous article in the collection was always a great china punch-bowl, which furnished a frequent and grateful beverage; for wine drinking was then much less in vogue. China teacups and saucers were about half their present size; and china teapots and coffee-pots with silver nozzles were a mark of superior finery. The sham of plated ware was not then known, and all who showed a silver service had the massive metal too. This occurred in the wealthy families, in little coffee and

tea pots; and a silver tankard for good sugared toddy was above vulgar entertainment. Where we now use earthen-ware, they then used delft-ware, imported from England; and instead of queen's-ware (then unknown) pewter plates and porringers, made to shine along a dresser, were universal. Some, and especially the country people, ate their meals from wooden trenchers." This passage may be taken as affording a faithful view of American usage in regard to the different points upon which it touches, not in Pennsylvania alone, of which Mr. Watson is more particularly treating, but throughout the country. China was still an article of luxury, in which only the rich could indulge. We are, therefore, prepared to find that it was not until the close of the last century, and after the Revolutionary troubles, that crockery assumed any importance as an article of commerce between England and the United States. For a long time prior to that period it is reasonable to suppose that America had been able to satisfy the home demand for all the coarser wares, and also for bricks; but at the close of the eighteenth century the manufacture had made little or no progress. It had not advanced beyond the production of bricks, tiles, and certain kinds of coarse stone-ware and pottery. It is, to say the least, amusing to find Wedgwood, in 1765, expressing fears for England's earthen-ware trade with America, on account of the establishment of some "new Pottworks in South Carolina." "They have," he said, "every material there, equal if not superior to our own, for carrying on that manufacture;" and on these and other grounds he asked if something could not be done to protect the home manufacture!

Miss Meteyard, Wedgwood's biographer, relates that in 1766 a Mr. Bartlem, a Staffordshire potter, emigrated to South Carolina, and having induced several workmen to join him, began his trade in that State. He failed there, as he had done in England, and a similar fate befell an enterprise which had for its object the establishment of china works in Pennsylvania.

Previous to 1796 both earthen and stone ware were made by Mr. Charles Lathrop at Norwich, Connecticut; and in 1789 Mr. Samuel Dennis made an unsuccessful application for State aid in founding a stone pottery in Connecticut, at which he promised to make ware resembling the Staffordshire queen's-ware. The industry was also pursued at Hartford by Isaac Hanford, at Stonington by Adam States,

and at Norwalk. Shortly afterward, or in the first decade of the present century, ware of an apparently higher class began to be made in the Eastern States, and although large quantities continued to be imported from England, the native wares rapidly improved in quality and increased in quantity.

About the year 1800, Van Wickle's stone-ware factory was in operation at Old Bridge, now Herbertsville, New Jersey. The clay used was obtained from Morgan's Bank at South Amboy. Two years later a similar factory, using the same material, was started by the Prices at Roundabout, now Sayreville, on the Raritan. In 1833 J. R. Watson, of Perth Amboy, established a factory of fire-brick, and was working it regularly three years later.

The workshop now carried on by Mr. Richard C. Ramey at Philadelphia is one of the oldest stone-ware factories in America. It turns out a good quality of fire-brick and ware for chemical purposes. A few other Philadelphia firms may here be noticed. Harvey & Adamson make a strong and durable quality of stone-ware, with a hard vitreous glaze (*grès cérames*), and artistic terra-cotta. Jeffords & Co., of the same city, manufacture an excellent grade of fine stone-ware for household purposes, and table wares. The pieces have usually mouldings in relief, and are colored brown or yellow on the outside and white inside. The latter is apparently produced by making use of an *engobe* of very white clay. Galloway & Graiff make earthenware of various kinds, including terra-cotta in Greek shapes. Moorhead & Wilson have very extensive clay works at Spring Mills, and manufacture terra-cotta for building purposes. They also make terra-cotta vases, after the antique, for decorators.

At Baltimore good qualities of common earthen-ware and salt-glazed stone-ware are made by Perrine & Co.

About 1825 a factory of natural porcelain was founded by a number of Frenchmen in Jersey City. We have a specimen of this porcelain, made in 1826—a small bowl, with excellent body and glaze, and decorated with a gold band round the outside of the rim. The venture did not prove a success, and the production ceased within a year or two. In 1829 the works were assumed by David Henderson & Co., and carried on under the firm of the American Pottery Company. It was here that the throwing and turning of earthen-ware upon the

English principle was first performed in America, by William and James Taylor. This was also the first successful attempt to compete with England, and was made in connection with the manufacture of a yellow ware. Three years later, or in 1832, the same potters were making a cream-colored ware chiefly from imported materials. To the decoration of a white ware the English process of printing was successfully brought, and a brown earthen-ware, made about the same date, was variously ornamented with reliefs and colored enamels. Three specimens of the latter are in the Metropolitan Museum. One consists of a water-pitcher modelled by Daniel Greatbatch (Fig. 430), with the handle in shape of a hound, and a hunting scene in relief, and belongs to the earlier period of the factory. About 1845 a change appears to have taken place in the proprietorship, as we then find the company consisting of Messrs. William Rhodes (whom we shall meet again in Trenton), Strong, and M'Gerron. The firm made white granite and cream-colored ware until 1854. At that time the pressure of foreign competition was so great that they could not gain a foothold in the regular trade. Their wares were chiefly sold by peddlers and itinerant dealers, who were in the habit of going to the factory with wagons, when they knew that a kiln was to be drawn, and carting off the goods before they were trimmed. Rhodes resigned in 1854, and went to Vermont; and the remaining partners sold out, in 1855, to Rouse, Turner, Duncan & Henry, of whom Messrs. Rouse & Turner are now carrying on the establishment. The popularity occasionally reached by a single form was, perhaps, never better exemplified than by the brown pitcher above mentioned. It is made down to the present time, and has become so identified with the factory, that, when wishing to send a memento to his

Fig. 430.—Jersey City Earthen-ware Pitcher.

friend Mr. John Haslem, of the Derby Works in England, Mr. Rouse thought he could not do better than send him one of these pitchers, of a size larger than ordinary. The present firm have not used any imported clay for the past fifteen years. They now obtain spar from Connecticut, flint from Lantern Hill, Connecticut, China clay from South Carolina, and other clays from New Jersey. The staple of the factory is granite-ware, for which a peculiar ivory-colored glaze has recently been adopted. Parian is also made. The Jersey City biscuit is extensively consumed by decorators, and some new and very handsome shapes have been designed for this special branch of trade (see Fig. 457).

Messrs. Lyman, Fenton & Co. embarked, in 1847, in an enterprise at Bennington, Vermont, which promised to be a commercial success. They made both pottery and artificial porcelain. The enamel upon certain specimens of the former in the Metropolitan Museum, and belonging to the Trumbull-Prime collection, is of a notably good quality. The works stopped, after running for about twelve years.

The oldest establishment in New York is the Hudson River Pottery, in West Twelfth Street. It was founded in 1838, and is now carried on under the firm of William A. Macquoid & Co. The only products, until within a year ago, were stone-ware and glazed earthen-ware. At that time the demand by decorators for terra-cotta in the choicest antique forms led the firm to add it to their list of productions. The experiment was successful. The paste is fine and well worked.

The "Manhattan Pottery" of Stewart & Co., in West Eighteenth Street, New York, is engaged chiefly in the production of drain-pipes and terra-cotta. The former are glazed with "Albany slip," obtained from the bed of the Hudson at Albany, which

Fig. 481.—Porcelain Statuette, New York City Pottery.

Fig. 432.—Iron-stone China Plaque.

renders them perfectly impervious to the action of acids.

Mr. James Carr, of the New York City Pottery, after working for some time with the American Pottery Company, in Jersey City, went, in 1852, to South Amboy, and founded an establishment for making yellow, Rockingham, and cream-colored ware. Twenty-two years ago he removed to his present premises in West Thirteenth Street, New York. Mr. Carr makes use of six or seven different bodies, all composed of American materials. Some time ago he made a few pieces, including a tea-service and two statuettes (Fig. 431) of artificial porcelain, using bone and kaolin from Chester County, Pennsylvania. The table-pieces are decorated with festoons of flowers, in pink and green, and a rim of blue and gold. The statuettes are well modelled and very tastefully colored. The staple product of the factory is stone china, which is largely sought in biscuit by decorators. The quality is probably as fine as it is possible to make stone china, and styles of decoration are followed which are rarely found on a similar body. Dinner-services are decorated with all the care usually reserved for porcelain, and many ornamental pieces, including a series of circular plaques, show admirable taste and workmanship (Fig. 432). A third quality of ware is called "Semi-china," and is nearly as translucent as porcelain. It is made from American kaolin clay, with a large admixture of felspar. It is decorated in styles

Fig. 433.—New York City Pottery. Lambeth Style.

similar to those found upon the iron-stone china. Mr. Carr also makes statuettes and busts in terra-cotta, of a warm, rich tint, and in a fine, partially translucent parian. Besides these, the works produce cream-colored ware and majolica. The latter is made into a great variety of forms—jars, pedestals, seats, boxes, and cups, the leading colors of which are a clear deep blue, yellow, and green.

Some of the colors found upon iron-stone china pieces are remarkably good, notably a fine mazarine blue and a brilliant black. Artistic work of all kinds is receiving attention. Mr. Carr has made many experiments, and continues making them with unremitting ardor (Fig. 433). Beginning to work at a time when the mechanical difficulties in the way of success seemed insuperable, he gradually extended his efforts as these difficulties disappeared, and is now reaching toward the higher forms of the art. The story of his life is the history of modern American pottery.

The history of Trenton is interesting from the enormous development of the manufacture in that city within a very short space of time. The business was begun in 1852, by the firm of Taylor & Speeler. Taylor is said to have made the first porous cup at Jersey City, for Professor Morse's experiments. This honor is also claimed for the Robertsons of Chelsea, Massachusetts. But leaving that question in the mean time, it would appear that the Taylor here spoken of is the same whom we have seen at work as a thrower with the American Pottery Company. The Trenton firm made yellow and Rockingham ware, with which they were successful from the first. They also attempted porcelain and parian; but these wares, though of fine quality, were not received with such favor as to make their production a commercial success. This resulted, in all probability, from the difficulties attending the manufacture. Since their day the business has almost entirely turned toward another class of white goods, the granite-ware in common use, and for a long time no attempts to manufacture porcelain were made except in the way of experiment. This was done by nearly every firm in the business.

Taylor & Speeler were making white granite in 1856, but only to a limited extent, and in connection with yellow-ware and Rockingham. A medal was awarded them for the manufacture of superior pottery. This honor was conferred in 1856, by the Franklin Institute

of the State of Pennsylvania. The medal is now in Mr. Taylor's possession. As a memento of the skill shown in the early days of American pottery it will bear description. It is made of silver, and has on one side the inscription, "Reward of skill and industry to Taylor, Speeler & Bloor, Trenton, New Jersey, for china, granite, and earthen ware, 1856." On the obverse is a likeness of Benjamin Franklin, and the words "Franklin Institute of the State of Pennsylvania, 1824." To Mr. Taylor, the senior partner of the firm, the credit is due of first firing a kiln with anthracite coal.

The factory is now called the Trenton Pottery Works. Mr. Bloor joined the original firm of Taylor & Speeler in 1854, and retired in 1859. Soon afterward Mr. Speeler sold out to John F. Houdayer, and in 1870 the firm consisted of Mr. Taylor and John Goodwin. A year later Mr. Goodwin was bought out by his son, James H. Goodwin, and Isaac Davis, the latter of whom soon afterward acquired Goodwin's share, and in 1875 became sole proprietor by purchasing Mr. Taylor's interest. Mr. Davis, like several others of the older Trenton potters, is an Englishman, and the fact is noteworthy, in view of the opposition to goods of American manufacture. It shows how blind was the prejudice which, there being no question of the excellence of American materials, will not concede to an Englishman in America the skill and ability of the same Englishman in England. Mr. Davis went to Trenton from Staffordshire in 1862, worked first with William Young & Sons, formed a copartnership with George Lawton, upon a capital of $300, joined the Glasgow Pottery Company, and then, as we have seen, bought an interest in the firm of Taylor & Goodwin.

The first to make cream-colored ware for the market were William Young & Sons, Astbury & Millington, who comprised the firm which, in 1853, laid the foundation of an industry which has since attained to enormous dimensions. They had large orders for strawberry bowls from a trucker near Rocky Hill, and these they fired in Taylor & Speeler's yellow-ware kiln. The business, although greatly increased, has not changed its character, and is at the present time carried on by William Young's sons.

Of the original partners Astbury formed a copartnership with Mr. Maddock, and the present firm is Astbury & Maddock, of which the

latter is the only surviving partner. Its chief product is sanitary and druggists' ware, and experiments are also made with American kaolins —those of Missouri, Pennsylvania, and other States—with a view to the manufacture of a true American porcelain. Decorating and printing are now receiving a considerable amount of attention. Mr. Millington, also of the old firm, resigned, and founded the pottery now bearing his name.

The first pottery fitted up for the exclusive manufacture of white granite and cream-colored ware was that of Rhodes & Yates, in 1859, at the present City pottery, on Perry Street. This Mr. Rhodes is the same one who was partner in the Jersey City pottery. On going to Vermont, in 1854, he established the manufacture of white-ware, and remained there until the fall of 1859, when he joined Mr. Yates in a new enterprise in Trenton. The previous history of the City pottery is a story of continuous changes. At one time it was occupied by William Young & Sons, who were making porcelain hardware trimmings. In 1853 it was purchased by Mr. Charles Hattersley, and in 1856 passed into the possession of Mr. Yates, who leased it to James and Thomas Lynch. For two years they occupied it as a drain-pipe factory, and in 1859 it was assumed by Mr. Yates, in partnership with Mr. Rhodes. In putting granite and cream-colored ware upon the market, the firm had many obstacles to overcome. Chief among them was the all-prevailing prejudice of dealers and consumers in favor of imported goods. Success, however, came in course of time. An entrance was forced into the market, and other firms which rapidly sprung into existence seconded their efforts in securing for Trenton a remunerative recognition in the white-ware trade. Meantime several changes took place in the firm of Rhodes & Yates. Mr. Higginson became leading partner, and in 1865 the firm was Yates & Titus, which was changed, in 1870, to Yates, Bennett & Allen, and in the fall of 1875 to the City Pottery Company, of which Mr. Yates and Mr. John Rhodes—a son of William Rhodes—are two of the partners. The period of seven years between Taylor & Speeler's venture and that of Rhodes & Yates may be called the infancy of the Trenton manufacture. Since that time the production has increased year by year, and Trenton well deserves the title conferred upon it of "The Staffordshire of America." Its annual productive capacity is about

two and a half millions, and during 1876 the actual production was about $1,750,000. There are, in all, nineteen potteries in the city, and several decorating establishments. To illustrate what is now being done, and to indicate the new channels which the industry is seeking, a few of the leading factories may be referred to.

The Etruria Pottery Company is now working the factory built, in 1863, by Messrs. William Bloor, Joseph Ott, and Thomas Booth. Mr. Booth retired in 1864, and was succeeded by G. S. Burroughs, who, in 1865, withdrew and made way for J. Hart Brewer. In 1871 Mr. Bloor retired, and the firm of Ott & Brewer remained in possession until January, 1878, when the Etruria Pottery Company was organized. Until 1876 the staple products of the factory were white granite and cream-colored ware. Its ivory porcelain and parian will be noticed hereafter.

The Glasgow Pottery of John Moses & Company sends out an immense quantity of white granite and cream-colored ware, and experiments are also conducted, chiefly with Pennsylvania kaolin, with a view to making porcelain. That now regularly made is called semi-porcelain, and many trial pieces have a pure translucent body and excellent glaze.

The firm of Coxon & Co. was founded, in 1863, by Mr. Charles Coxon, and is now composed of his widow, J. G. Forman, and S. M. Alpaugh. Mr. Coxon began with cream-colored ware, and conjoined it with white granite toward the end of 1863. Since that time the firm has produced both qualities.

One of the later establishments is the Mercer Pottery, built in 1868, of which Mr. James Moses is sole proprietor. Besides the common grades of earthen-ware, stone china and semi-porcelain are made and decorated. There is a decided tendency here toward the production of a finer quality of ware, and of styles of decoration possessed of artistic merit.

At the Arsenal Pottery Mr. Joseph Mayer manufactures Rockingham and brown stone-ware, and is in the possession of a number of excellent designs. Of the remaining Trenton potteries — the East Trenton Pottery Company, the American Crockery Company, Joseph H. Moore's, the Greenwood Pottery Company, and the Millham—it is unnecessary to give details. Within the past two or three years all

have been turning their attention to work of a more or less artistic character, some directing their efforts more particularly to decorating, and others to the perfecting of a body which shall enable them to compete with the manufacturers of porcelain. In the latter respect the Greenwood company has met with gratifying success, and has given their ware the name of "American China."

It will thus be seen that the history of modern American art and manufacture does not extend much beyond a century. Progress has been rapid, and the trade has developed with gigantic strides.

It is estimated that there are in all seven hundred and seventy-seven pottery establishments in the United States, including those for all kinds of ware, from terra-cotta to porcelain. All, or nearly all, these have sprung up within twenty-five years, and many of them since the Civil War. The productive capacity of some of the leading centres may be judged from the number of kilns they require. At Trenton there are fifty-seven kilns; at East Liverpool, forty-six; at Cincinnati, twelve; at Flushing and Greenpoint, Long Island, eleven; at Pittsburg, six; or there are at sixteen seats of the industry, and excluding terra-cotta manufactories, one hundred and seventy kilns. The capital invested by the forty firms, members of the Potters' Association, is upward of four millions, an amount vastly increased by the remaining seven hundred and thirty odd establishments throughout the country. White granite-ware, an abomination in point of art, but eminently useful, is made at other places in this country besides Trenton in great abundance. The only manufactory of white granite and cream-colored ware in the Eastern States is that of the New England Pottery Company at East Boston. It was established in 1854.

A display was made at the Centennial Exhibition of what was called "Ivory Porcelain," from the Etruria Pottery of Ott & Brewer, Trenton. It has a hard, semi-translucent body, and clear, smooth boracic glaze. It bears a close resemblance to Mr. Carr's semi-china, and is substantially the same ware that is now receiving attention from many of the other Trenton potters. It may be said to mark the first stage on the way to a true American porcelain. By exhibiting it at the Centennial Exhibition, Ott & Brewer were really the first to draw the public attention to this new departure in American manufacture.

Its distinctive name is taken from its soft, ivory-like tint. The advantages claimed for it are, that while it answers all the purposes of china, its manufacture is less expensive, and permits its being put upon the market at a much lower price; that it equals the average china in point of both utility and appearance; and that its consistency is such that it can be made into more graceful or less clumsy shapes than granite. Experience alone can dispose of these claims. It is fired, like granite-ware, hard in the biscuit and soft in the gloss-kiln, from which it would appear that the glaze and paste are not homogeneous, as in natural porcelain. Practically, however, this new ware represents a great and substantial improvement in the manufacture of a general domestic article. All the component ingredients of both paste and glaze are found in America.

Fig. 434. — Parian Vase. Etruria Pottery Company.

At Ott & Brewer's, also, are to be discovered the first glimmerings of what may be called an art, in the studio of Mr. Isaac Broome, an American artist of considerable repute and skill. Mr. Broome devoted himself to both painting and sculpture before turning his attention to ceramic art. Some years ago he established a terra-cotta workshop in Pittsburg; but the locality was unfavorable, and the enterprise was abandoned. A similar venture in New York city also failed.

Several months prior to the Centennial Exhibition he was employed by Messrs. Ott & Brewer to design and model certain works in parian. These were exhibited at Philadelphia, and were very favorably received. The improved kiln previously described (see page

79) was built after his plans, and under his personal direction for firing the works turned out of his studio. Of these one of the best was suggested by Mr. J. Hart Brewer, and consists of (Fig. 434) a pair of vases in parian designed to illustrate the national game of base-ball. Great variety of detail is attained without detriment to a certain severity of outline. From a narrow base the body contracts quickly to its smallest girth, and thence expands gradually to the top. Round the foot of each vase, and standing on the supporting pedestal, are arranged three figures of base-ball players, modelled after a thoroughly American ideal of physical beauty, embodying muscular activity rather than ponderous strength. The attitudes are very well chosen, and invest the figures with an appearance of life and vigorous action. A series of clubs belted round with a strap ornaments the stem of the vases, and some exquisitely wrought leaves and berries are woven round the top. The orifice is covered by a cupola or dome, composed of a segment of a base-ball, upon which stands an eagle. These vases are the work of a genuine artist, who has surrounded a general design of great merit with many finely executed and suggestive details.

Fig. 435.—Pastoral Vase. Etruria Pottery Co.

Fig. 436.—Faun's Head Bracket. Etruria Pottery Company.

The same artist's "rustic," or "Pastoral," vases (Fig. 435) illustrate a different order of ideas. Here the surface is covered with mouldings in relief, com-

posing a design partly suggested by mythology, partly original. It carries us back to the golden age of the poets. A female figure, which might be that of Flora or Proserpina, dances to a satyr who plays a musical instrument. The details are all in perfect harmony — the dancing goats, the grape-vines, the leaves, rustic wood-work, and goat's-head handles. A tasteful finish is given to the decoration by a fluting running round the upper part of the neck to the lip. To produce a good effect, work of this kind, all in relief and uncolored, demands the nicest finish, and a design which shall lean neither toward scantiness on the one hand, nor overloaded ornamentation on the other. In both respects Mr. Broome has been fortunate. The decoration relieves without destroying the fine outline of the vase.

Fig. 437.—Parian Vase. Etruria Pottery Company.

Mr. Broome's "Fashion" vases (Fig. 437) are embellished with some very fine illustrations of the fashions of a century ago and also of the present time. Of these the shapes are exceedingly quaint and uncommon, and the figures in low relief are very highly finished.

Besides these, Mr. Broome has modelled a great number of the heads and busts which have always been the staple of workers in parian. Some are original, others are reproductions from the antique. To the former class belongs an ideal Cleopatra (Fig. 438). The artist has chosen a full and sensuous type of beauty, vastly different from that adopted by recent painters who have ventured to portray upon canvas the charms which melted the stern Cæsar and enslaved Antony. Somehow one associates the style of beauty represented in Mr. Broome's bust rather generally with the land of Egypt than specially with the conquests of Cleopatra. This may result from a familiarity with less truthful conceptions, and in that view implies a decided merit. The artist has in details followed history as closely

as it seems possible for him to have done, and has wisely preferred study and research to giving his imagination a free rein. Imagination, or an American model, might have led him to present a higher type of beauty, but neither would have led him to produce a distinctively Egyptian Cleopatra. Accepting his ideal, it is worked out with unmistakable talent, and with the most painstaking attention to workmanship.

It is unnecessary to particularize farther. The Etruria Pottery Company have made a good beginning, and in directing the efforts of their artists it is to be hoped that they may not allow the commercial success of copies of the antique to divert attention from such works as those described. The paste employed is fine, compact, and hard, and assumes in some pieces the clear and polished appearance of marble. Its precise composition is not known. The paste is, as in the usual case, poured in a fluid state into plaster moulds, which absorb the superfluous water. Oxides are used to vary the color of the casts, and a number of tints of great delicacy and beauty have been secured.

Fig. 438.—Cleopatra, in Parian.

American terra-cotta must be briefly dismissed. At the Centennial Exhibition an extensive assortment was shown from works situated in many parts of the country. One or two makers displayed an utterly misguided taste in attempting something original. Others appeared to confine themselves to the well-known Apollo Belvederes, Niobes, and other antique subjects. Garden vases and ornaments were meritorious as a class; but whatever artistic work may be produced in some quarters, in others art is only budding, and will take some time before it blooms into flower. Some excellent work in terra-cotta is executed in Philadelphia and New York, and has been referred to above. Of the hundreds of other

factories throughout the country few have done anything distinctive. One or two might possibly be mentioned, such as the Halm Art Pottery Company, of Sandy Hill, New York, which are gradually drawing away from the commonplace, and may be expected, sooner or later, to possess an artistic individuality. Among Eastern workshops may be mentioned those of Beverly, Portland, North Cambridge, and Chelsea, Massachusetts. A great deal of the red terra-cotta of Beverly is consumed by decorative artists and students. The Portland terra-cotta is well known both for excellence of body and beauty of shape. The paste is unusually fine and close in texture, and is excellent under the brush. The North Cambridge establishment also turns out ware of a high quality. The designing department is evidently under skilful and competent supervision, and the forms have an antique grace which never loses its charm. As in the case of Beverly, the products of both these workshops are well adapted to the purposes of the decorator.

Chelsea demands a larger share of our attention for styles of work in terra-cotta unique among American products. The establishment is at present carried on by Robertson & Sons, under the name of the "Chelsea Keramic Art Works." The firm consists of J. Robertson and his two sons, A. W. Robertson and Hugh C. Robertson. The workshop was founded on 1st June, 1868, by A. W. Robertson, for the production of English brown-ware. He was joined by his brother, and the chief wares made at that time were fancy flower-pots. J. Robertson was admitted to the firm by his sons on 1st June, 1872, and affords a good instance of the wide experience it is possible to compress into one lifetime. Mr. Robertson was born in Edinburgh, Scotland, and first worked in the Fife pottery, at Dysart, where his father was head workman. He there acquired a knowledge of modelling and mould-making, and at the age of sixteen was engaged by the Watsons of Prestonpans, Mid-Lothian, then the leading fine-ware factory in Scotland. He next tried the North of England, and worked as modeller and mould-maker at several factories, gaining experience and proficiency, and ultimately took the management of a small red-ware pottery, where he introduced both white and printed ware, "smeared black" and "lustred" ware. On leaving, he tried manufacturing on his own account for a time, and then accepted the position of superin-

tendent of a black-ware factory at North Shields. He arrived in America in 1853, and worked first in a factory at South River; then with Mr. J. Carr, at South Amboy, and afterward at Thirteenth Street, New York; next with Speeler, Taylor & Bloor, at Trenton; and lastly as manager of the East Boston pottery. His next step was to join his sons at Chelsea, each of whom has had a more or less varied career, and is expert in at least one branch of the business. Since the establishment was opened, a great many experimental pieces have been made of different materials, sizes, and shapes. What are known as porous cones were made some time ago for chemical purposes, and are of so open a body that the breath can be drawn through them with ease. We have already seen that Jersey City claims this discovery. The credit is probably due to both, as they appear to have arrived at the same result by independent courses. Work of a more purely artistic character was tried about eight years ago, but, commercially speaking, without success. A second attempt was made in 1873, and the production has been continued down to the present time. The artists and collectors of Boston soon discovered certain qualities in the Chelsea potters and their works deserving recognition. They may possibly have reached the conviction that Chelsea is to be numbered among the places where artists value their work solely according to its truth, excellence, and beauty. Without affecting to disregard commercial considerations, they succeed in giving their art the precedence. It is not, therefore, a matter of surprise either that they should have convinced a section of the public that Chelsea can do noble service in the cause of American art, or that many excellent works should bear its mark. Allusion may first, however, be made to certain matters with which the Robertsons allow their attention to be diverted from more serious pursuits. They have been inspired by Doulton's treatment of stone-ware to make certain small pieces of fine earthenware of a gray color faintly tinged with blue, and very brilliantly glazed. The decoration consists of incised designs. The pieces do not bear a very close resemblance to Doulton ware, but are in themselves decidedly attractive. The Robertsons, having mastered the fundamental secret of the Haviland process, viz., of applying the colors upon the unbaked clay, have, in the second place, brought out a few pieces after the style of the Limoges faience. Their success here is limited

by a palette which must be considerably enriched before the effects of the French ware are reached.

The best Chelsea works are in red and white unglazed earthenware. Of these we give two illustrations (Figs. 439 and 440). Some of the forms are original, and others are after the Greek, Italian, and other types. The decoration consists of designs graved in the paste, of mouldings in relief, and of carvings in relief. The application of moulded ornaments to the surface has been practised in all ages, and the Chelsea work does not demand special comment, although many of the designs are attractive and simple. The carving in relief belongs to a different order of work. Instead of being moulded, the ornamentation of leaves or flowers is carved out of clay laid upon the surface of the vase while still moist from the hands of the thrower. The effect is similar to that obtained by mouldings, but the work is finer, the details more highly finished, and the outlines sharper and clearer. Of the designs in these and the pieces decorated with mouldings, the best are those in which leaves either lie across the vase or form a calyx from which it rises upward. The absence of color allows the attention to rest solely upon the fidelity with which every detail is rendered. If this be the quality of work with which the Robertsons tested American taste eight years ago, it is not easy to understand why they did not succeed.

Fig. 439.—Chelsea (Robertson) Terra-cotta.

Fig. 440.—Chelsea (Robertson) Terra-cotta.

PORCELAIN.

Philadelphia.—William Ellis Tucker.—Bennington.—Jersey City.—Greenpoint.—Decorating Establishments.—Metal and Porcelain.

The history of American porcelain is necessarily brief. The impetus toward the higher branches of the art, emanating from Europe, in due time reached these shores. It affected the rapidly developing enterprise of the citizen of the young Republic, and touched his faith in the vast and varied resources of his country. Previous to the achievement of independence, however, and during the early colonial intercourse with England, an incident occasionally transpired not without interest in our narrative. When Mr. Richard Chaffers died in Liverpool, and his porcelain establishment was closed, many of his workmen came to this country. In 1771 it was reported in England that a large china manufactory was established in Philadelphia, where "better china cups and saucers are made than at Bow or Stratford." It may astonish many who are not acquainted with anything in American ceramics beyond the competitive spirit which rules the business, to find that more than a century ago it had left England behind in the race!

Fig. 441.—Philadelphia Natural Porcelain. (Trumbull-Prime Coll., New York Metropolitan Museum.)

There appears to be no longer any doubt of the existence of a porcelain factory in Philadelphia about the year 1770, and that, therefore, the report alluded to above was "founded on fact." Advertisements have been discovered which go far toward settling the question. They promise work equal to that of Bow, and are therefore in all probability the basis of the rumor above mentioned, which was current in England a year later. How long the works were carried on is not known.

The next porcelain venture was made in the same city, between 1816 and 1830, by William Ellis Tucker. Tucker began as a decorator, and, after a series of experiments, made first a non-translucent ware of good quality, and then natural porcelain (Figs. 441 and 442).

His works were originally situated behind his father's china store in Market Street, and afterward at the corner of Market, Schuylkill, and Front streets. One serious impediment to success was a treacherous workman, who did all he could to frustrate his employer's design. His first experiment was to cut the handles off the pieces when placing them in the kiln. His next was to wash the seggars with felspar, which melted in the kiln and fastened the wares to the bottom of the seggars. When Tucker first made porcelain for the market is not recorded, but in 1827 he was honored with a silver medal by the Franklin Institute of the State of Pennsylvania. Some time prior to Tucker's death, in 1832, Judge Hemphill had been admitted as partner, and subsequently carried on the factory, in connection with Thomas Tucker, a brother of the founder, for a few years. He then sold out. Thomas took the works in hand alone in 1837, and kept them running for about a year, when the production ceased. The products of the factory were chiefly table wares. The paste and glaze were both excellent, but the form and decoration would not permit of competition with imported china. The workshop went down for want of public support, and also on account of the alleged impossibility of securing the services of skilled artists. We have already seen that Lyman & Fenton conjoined the making of artificial porcelain (Fig. 443) with that of pottery at Bennington, Vermont. This factory is chiefly remarkable as the first from which figures in biscuit were turned out. We have also noticed the Jersey City enterprise of Henderson & Co. Several attempts to produce porcelain were made at Greenpoint, Long Island. In 1848, Mr. Charles Cartalege met with some success in the manufacture of knobs and buttons, but in no table ware. Altogether it is probable

Fig. 442.—Philadelphia Natural Porcelain. (Trumbull-Prime Coll., New York Metropolitan Museum.)

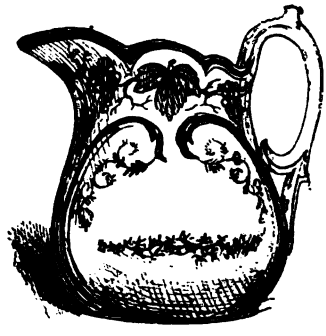


Fig. 443.—Bennington Artificial Porcelain. (Trumbull-Prime Coll., New York Metropolitan Museum.)

that about a dozen different establishments were founded for the purpose of inaugurating the manufacture of a native porcelain. They generally succeeded in making a few pieces, and then stopped for lack of patronage. The honor of first establishing the industry upon a successful basis, and of turning out a commercial ware, is to be ascribed to Mr. Thomas C. Smith, of the Union Porcelain Works, Greenpoint.

Mr. Smith is an American, whose ancestors arrived in the Eastern States about one hundred and fifty years ago. He was brought up as a mechanic, and first went into the porcelain manufacture in 1857, under a company composed of a number of Germans who had started the business about three years previously. At this time several small kilns existed in Greenpoint, like that of Cartalege, for the purpose of making door-knobs and other hardware trimmings. The paste then used was compounded upon the principle of the English artificial paste, and contained a large proportion of burned bones or phosphate of lime. This was the composition used by the Germans with whom Mr. Smith connected himself. These Germans, through dishonesty and want of knowledge of the business, soon brought the concern into trouble, from which Mr. Smith tried to extricate it by acting as manager for a time, but the derangement and prostration of trade, caused by the outbreak of the Civil War, compelled the company to wind up its affairs. Mr. Smith, being the largest creditor, became the purchaser, his intention being to bring the porcelain enterprise to an end, and make the property available for some other purpose. Meantime he went abroad. At the time when the second battle of Bull Run was fought he was in France, and it was there the idea grew upon him that there was a good opportunity for establishing the porcelain business in his native country. So complete was the change in the formation of his plans, that he immediately turned his attention to making such inquiries as might subserve his purpose, among the great workshops of France and England. When he returned home, his intention of abandoning the manufacture of porcelain disappeared, and he decided to embark anew. The experiments which followed were attended with much anxiety. Up to November, 1863, the old bone body had been retained; but in 1864 Mr. Smith stopped using it, and directed his attention solely to the production of a natural kaolinic

porcelain like that of China or Meissen. His experiments extended over about two years. The first pieces were uneven and the vitrification was incomplete. This arose from an ignorance of the correct

Fig. 444.—Century Vase. Greenpoint Porcelain.

composition required for success. Farther trials were more encouraging, and in 1865 he succeeded in making a plain white-ware, which he could place upon the market. Mr. Smith prides himself upon one fact, that, unlike any one of the European establishments, from that of Florence downward, he succeeded without aid either from a wealthy patron or from government.

In 1866 he first began to decorate, with one English and one German artist. By availing himself of odd fragments of information, he not only improved his decoration, but discovered some European usages, the prevalence of which he had not suspected. One of these

was that Dresden ware was sent in large quantities to England to be decorated, and was afterward returned to Dresden and sold as Meissen ware. On one occasion he bought in Europe a Meissen porcelain cup decorated with blue, red, and gold. On returning home, he broke the cup, and put one of the pieces in his porcelain furnace, to see if the colors would stand the heat to which his own were exposed. When it was withdrawn the red had disappeared, a thin, almost imperceptible line was all that was left of the gilt, and the blue had run into streaks and blotches. This little experiment taught him that he was contending with difficulties, in firing his colors, which European makers had not thought it necessary to meet. That he has succeeded is marked by the extension of his works, which cover about an acre of ground, and give employment to about one hundred and seventy people. All his porcelain is decorated by his own artists. Mr. Karl Müller is the chief designer and modeller, and brings a long experience as a sculptor to bear upon his studies in clay. He is a German, whose art education was mainly acquired in Paris under the tuition of the ablest artists of Europe. His predilection for the potter's art led him to associate himself with Mr. Smith. Before doing so, in 1874, he modelled three terra-cotta figures of base-ball players, in different attitudes suggestive of athletic activity.

Fig. 445.—"Kéramos" Vase. Greenpoint Porcelain.

The ingredients of Greenpoint porcelain are the kaolins of Cornwall,

Delaware, Pennsylvania, and Georgia; felspar from Maine and Connecticut; and quartz, also from Connecticut. These are compounded according to the purpose for which the paste is to be used. In that for table ware the proportions are: kaolin, 37; felspar, 33; quartz, 30. For the glaze: felspar, 15; lime, 15; kaolin, 12; quartz and broken porcelain, 58. The paste made into hardware trimmings contains a greater proportion of American kaolin than that for table ware. As to the merits of the latter it is thus spoken of by M. Ch. de Bussy, from whose official report we have already quoted: "The porcelain of Greenpoint is second to none in quality of paste and hardness of glaze. Most of the articles are heavy, and may be compared in form with that which in French commerce is known as *limonade:* we have, however, seen thinner pieces, such as tea and coffee cups, well made, and which would figure honorably among the productions of Europe (bien fabriquées, et qui pourraient figurer honorablement parmi les productions d'Europe)." Mr. Karl Müller's first work of art was a "Century Vase" (Fig. 444), designed by Mr. Smith for the Centennial Exhibition. Bison heads form the handles; medallions decorate the front and back, and below them is a belt of gold with small bison, walrus, ram, and other animal heads arranged at intervals. The base is surrounded by a series of medallions or panels, representing, in white relief, Indians, a soldier of the Revolutionary era, the Tea Scene in Boston Harbor, and other historical incidents. The body is painted in blue, red, and gold. The artistic character of the vase can be sufficiently studied in the engraving. The decoration, it will be observed, consists in part of paintings on the flat, and in part of the reliefs already mentioned, which give a meaning to the distinctive title, "Cen-

Fig. 446.—Greenpoint Biscuit Porcelain.

tury Vase," chosen for the piece. It illustrates the national progress of a century.

When Mr. Longfellow wrote his poem "Kéramos," it is hardly probable that he contemplated the possibility of supplying a subject to the art of which he sang. The poet wrote of the potter, and the potter has illustrated his song. The poem had no sooner appeared than it was made the groundwork of an illustrative vase (Fig. 445). As in the "Century Vase" history is represented by periods and leading events, so in the "Kéramos" vase the history of ceramic art is represented by the leading contributions to its continuous progress. In panels on the base the potters of all ages are seen at work—Egyptian, Greek, and modern. Above these, on the body, are reliefs illustrative of the pottery of Peru, Italy, France, Spain, England, and other countries. As we turn it round, the advance of ceramic art is seen as in a diorama, and amidst the various scenes appears in relief the bust of the poet whose song inspired the work. The form of the vase is singular, simple, and severe, but well suited to the artist's treatment of his subject. Its rigidity is considerably softened by the quaint, projecting feet and the figures they support, and by the decoration surrounding the flaring top.

Fig. 447.—"Song of the Shirt." Greenpoint Biscuit Porcelain.

Among the other productions of Greenpoint is a series of statu-

ettes, groups, and animal figures, which were first made in a non-translucent hard clay, of a light but warm brown or buff, and afterward in porcelain biscuit. The material first used is dense and non-vitrifying, more nearly resembling terra-cotta than parian. It is well suited to the production of statuettes and groups, in the modelling of which unmistakable talent and originality are displayed. We can in this department, better perhaps than in any other, appreciate the spirit permeating the designing-room at the Union Works. The rule appears to be to study the antique, but instead of copying or reproducing the works of the ancients, to follow their example in choosing subjects from the every-day life of the artist's own time. We nowhere see a copy of ancient statuary or feel a breath of borrowed inspiration. Every subject is taken from modern literature, or from life in America in the nineteenth century. One piece (Fig. 447) has under it the words "Stitch! stitch! stitch!" and presents us with a softened illustration of Hood's poem. We say "softened," because the artist has preferred—wisely or not we will not now determine—to tone down the unutterable misery of the picture, in which the "woman sat in unwomanly rags, plying her needle and thread." The unspoken weariness and mingled longing and resignation are here, but the squalor and wretched poverty are rather suggested by the broken box upon which the needle-woman sits, than forced upon our notice. If we accept what was evidently the artist's working canon, that the literal realization of human wretchedness has no place in art, then we must also accept the work as a fitting counterpart to that of the poet. In any case the conception is praiseworthy, and the execution skilful. Another group was suggested by Poe's "Raven:"

Fig. 448.—Greenpoint Porcelain.

> "And my soul from out that shadow that lies floating on the floor
> Shall be lifted—*nevermore!*"

The bust of Pallas stands, with the raven on its shoulder, upon a pedestal, in front of which lies a veiled figure. The piece is, we have

Fig. 449.—Greenpoint Porcelain.

said, suggested by the poem, of which it is in no sense a literal interpretation. A third group consists of a nude boy and dog, and tells its little story truthfully and forcibly. The attitudes and modelling are alike excellent.

Other pieces, such as a procession of frogs and turtles with shouldered "pitcher-plants," illustrate the humorous side of the artist's genius (Fig. 448). The subject appears to be a favorite one, as we find it variously treated in porcelain also. The other statuettes particularly deserving of notice are a stone-mason, two firemen —one of the old *regime* and one of the new—

Fig. 450.—Greenpoint Porcelain. (E. Bierstadt Coll.)

and a bust of Forrest as William Tell. These specimens will suffice, with what was said above, to indicate the direction in which this branch of art at Greenpoint is being extended.

Fig. 451.—Poets' Pitcher. Greenpoint Biscuit Porcelain.

There has yet to be considered the staple product of the Union Works, viz., its household porcelain. The paste is, as we have seen, of good quality, and the manufactured ware is strong and serviceable. One of the great obstacles in the way of the success of other enterprises—the lack of skilled artists—Mr. Smith has overcome, and now employs a number of decorators whose work augurs well for the continued prosperity of the establishment. We have seen one set (Fig. 449), composed of a circular tray, sugar-bowl, milk-pitcher, and teacups, which is entirely praiseworthy in both design and workmanship. The prevailing color is lavender, into which are wrought, in the form of birds and flowers, delicate tints of blue and yellow. The effect of the whole is soft and pleasing, and is heightened by the graceful design of the pieces, and the fine translucent body upon which the decoration is laid.

We cannot here point to any style as being particularly distinctive of the workshop. The taste of the decorators is broad and catholic.

White reliefs are occasionally used with fine effect in the ornamentation of pitchers and cups. One of the latter shows white figures in relief upon pale grounds.

Fig. 452.—Greenpoint Porcelain.

The cup is of a very graceful shape, and a miniature Columbia supported by an eagle forms the handle. A pitcher in biscuit (Fig. 451) is surrounded by heads of distinguished poets in relief. In this case also the shape is excellent, and the mouldings, including the subsidiary decoration, are admirably finished.

Fig. 453.—Greenpoint Porcelain. View of Memorial Hall.

The painting upon some of the plates is deserving of particular notice. They can only be referred to individually, as we have seen that no leading style has been adopted under which they could be treated of collectively. There is no uniformity either in the merit of the designs or decorations. One has for centre-piece a view of Memorial Hall (Fig. 453), and, set in a rim of deep crimson, oval medallions with similar views. The drawing is very careful, and the colors well assorted. On another style a flower or a fern covers the bottom and falls upon the rim, which has no other decoration. Others have views of a windmill (Fig. 455), a cottage embowered in foliage painted in monochrome, or fruit. In some we find delicacy, and in others the work of a brush unaccustomed to search for subtleties of tint or the more refined expression of which color is capable. Fortunately the latter are the exception and the former the rule.

Fig. 454.—Greenpoint Porcelain.

To examine the methods of the artists of Greenpoint, the plate (Fig. 452) may be referred to. The flowers forming its decoration

may be found by almost any country roadside. Gathered as they grew, they were taken to the decorating-room, and were there transferred to porcelain. Apart altogether from the artistic result, there is a principle in such a manner of seeking designs deserving of attention. We have seen that in Japan the secret of the infinite variety of art lies in the close sympathy between the artist and nature. He turns to his promptress on all occasions for inspiration and suggestion. It must be so everywhere. The boundless wealth of form and color found in nature confers an equally boundless variety upon the art in which it is reflected. The conventional is limited by human ingenuity: the natural has no limit.

Fig. 455.—Greenpoint Porcelain. Painted by J. M. Falconer.

As a final example of table ware let us instance a plate (Fig. 454) decorated in gold, blue, red, green, yellow, and pink, so sparingly that only a close examination brings out the real richness of the coloring. In the first place, the decoration lies entirely upon the rim, with the exception of two circles of gold and blue. The design consists of crossed branches painted in blue and gold, with insects and brightly feathered birds. The effect is exceedingly soft, the delicacy of the colors being as pleasing to the eye as it is satisfactory in point of taste. The mark of the Greenpoint porcelain is an eagle's head with the letter S—the manufacturer's initial—through the beak.

Fig. 456.—English Porcelain. Decorated by Mrs. Hoyt. (D. Collamore.)

Besides the manufacturers and the

artists employed in their establishments, many persons make a business of decorating earthen-ware and porcelain, and within the past few years many more have been attracted to this branch of art. It is regularly taught by two New York institutions, the Decorative Art Society and the Ladies' Art Association, and has many devotees both in the East and West. Much of the work executed by these artists is highly creditable; and there is a great deal that never reaches the public eye, which is marked by both delicacy and originality.

One of the regular professional establishments is that of Warrin & Lycett, of New York. The example here given (Fig. 457) is Jersey City earthenware, and was painted by Mr. Warrin, who has had an experience of about fifteen years as a decorator. The colors are bright, and are very happily blended. The ground is a shade of light green, and the flowers are painted in their natural colors. At this workshop success was reached some time ago in a very delicate operation, that of transferring photographs to porcelain.

Fig. 457.—Jersey City Earthen-ware. Decorated by Warrin.

Mr. John Bennett, formerly the Director of the Faience Department of the Doulton factory at Lambeth, has within the past year settled in New York, and is now turning out decorated faience after the styles seen in the English original. He uses imported Lambeth biscuit, and has erected a kiln in connection with his studio for firing the decoration. It is his intention, in course of time, to use American clays, in order to obviate the necessity of importing biscuit, and at the same time to obtain new shapes made after his own designs. Among his best ground colors are pale yellow, pale blue,

and a rich brown tinged with red. The latter is very effectively used with leaves and flowers drawn over the piece in shades of green and yellow. All Bennett's pieces have an even and brilliant glaze. After what has been said of Lambeth faience, no attempt need here be made to characterize the art represented by this ware. It will be, as indeed it deserves to be, admired; and America ought to be congratulated upon the acquisition of so good a representative of the Lambeth school of decorators.

Fig. 458.—Bennett Faience. (D. Collamore.)

The tile-piece at the opening of the book devoted to America (page 391) was painted by Mr. F. T. Vance, of New York. The drawing is excellent, and the design is original and decidedly meritorious. The arrangement of the figures gives a life to this and other pieces by the same artist entirely lacking in the styles of tile-painting, which consist of a repetition on each tile of the same design, or of varied but independent designs.

Mr. John M. Falconer, of Brooklyn, is an artist who has devoted himself very successfully to ce-

Fig. 459.—Bennett Faience. (D. Collamore.)

ramic decoration. Some of his designs on Greenpoint porcelain (see Fig. 455) are very pleasing, and the coloring is chaste and well handled. A more ambitious work is that given below (Fig. 461), an appropriate wedding-gift to an artist's daughter. The distance toward which the bride and groom are walking is rose-hued, and the church-spire and foliage partake of the effect. Roses are strewn along the path. A heavy knotted white sash forms a curtain and encloses the scene. Above, in a lunette of dark blue bordered with white pearls, is a golden-haired Cupid holding a box of wedding-cake, with the names of the lady and gentleman on the lid. The border of the plate is a deep flat pink, with a narrow outer line of white. The plate is remarkable both as a work of art and for the delicate manner in which, as a gift, it conveys the congratulations and good wishes of the giver. Some of his works, besides the one above alluded to, are in the possession of Mr. T. C. Smith; and others, both in camaïeu and polychrome, are entitled and owned as follows: "Independence Hall," Rev. Morgan Dix, D.D.; "The Old Clothing Store, Boston," Mrs. C. F. Blake; "Albert Durer's House," and "The Oldest House in St. Louis, Missouri," Charles Brown, Troy, New York; "Shakspeare's House," Edward Green, New York; "A Smoke Fancy," "Autumn, Montclair,

Fig. 460.—Lambeth Faience. Decorated by Bennett.

Fig. 461.—Plate Painted by Mr. John M. Falconer.

Fig. 462.—Limoges Porcelain and Silver. (Reed & Barton, N. Y.)

New Jersey," "Church at West Point," "Moonlit Lake," Aaron Vail, Jr., Troy, New York; "Crescent Moon," John Gale, Esq.; "Killearn Manse, Scotland," Hon. M. B. Macleay, New York; "The Old Tower, Newport," Mrs. S. P. Avery; "Across the Water," F. A. Bridgman, Paris; "At Montreal," George H. Boughton, London; "At Wilmington, North Carolina," Mrs. J. P. Whitehead, Newark, New Jersey; "Old Castle, Sunset," Alfred Jones, Yonkers, New York; "The Philosopher," Rev. L. L. Noble, Annandale, New York; "Moonlight," Charles Parsons, Montclair, New Jersey; landscape, and a set of two blue and one yellow vases, Hon. George B. Warren, Jr., Troy, New York. Mr. Falconer has the advantages of a cultivated taste and well-trained skill to help him win such a reputation as might induce him to substitute, even to a greater extent than at present, porcelain or pottery for the more perishable canvas.

There remains to be noticed an artistic combination in which, although it has long been practised in Europe, American workmen have recently succeeded in producing exceptionally fine effects. Reference is made to the combination of metal and porce-

Fig. 463.—Copeland Porcelain and Silver. (Reed & Barton, N. Y.)

lain. We have seen with pleasure slender and exquisitely wrought stands of silver and gold, in which delicately painted French porcelain dishes and basins are converted into card-receivers, flower-stands, and fruit-dishes. A great deal of taste can be displayed in the selection of colors to suit the metal, as well as in the deeper harmony which reproduces in silver or gold the flower stems on the porcelain. Chinese porcelain, in rich colors—green, pink, and blue—is similarly treated. Pieces of the Green family are tastefully set in silver and gold, the mouldings on the bands of metal corresponding with the painted borders of the porcelain.

From such specimens of a double art we turn to others less rich, but scarcely less attractive. Faience vases are mounted in bronze and brightly burnished brass, and derive a new character from the association. Works of this class show that, while it is possible to define the limits of the field peculiar to ceramic art, its place in household decoration cannot be specified with equal precision. Already it has entered into effective alliances with the arts of the silversmith, goldsmith, the workers in the baser metals, of the enameller, the carver, and the cabinet-maker. In these several relations it is not now intended to follow it farther. They would lead to the consideration of many arts essentially distinct, and as foreign to each other as to that whose history has led us from the sun-dried bricks of Egypt to the porcelain of Greenpoint.

Fig. 464.—Worcester Porcelain and Silver. (J. W. Britton Coll.)

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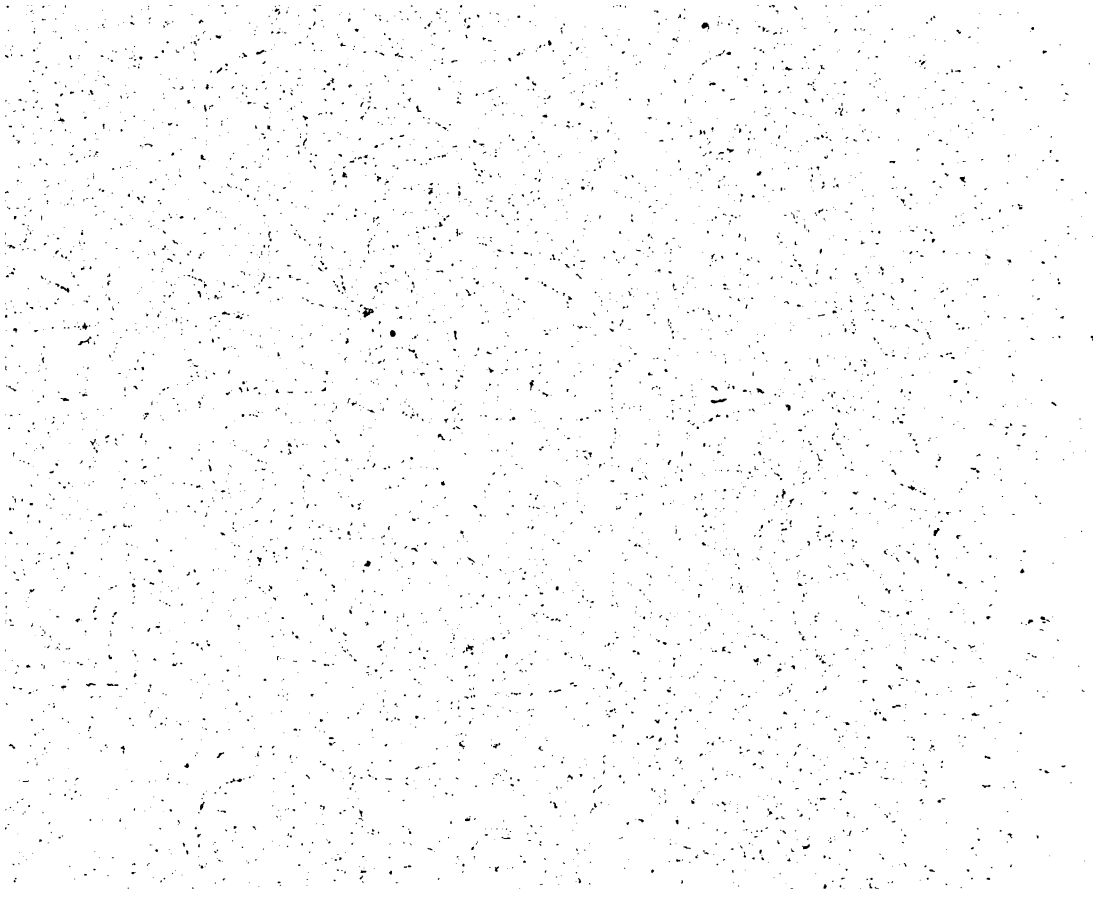
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